

AIRFIX magazine

September 1974
FOR PLASTIC MODELLERS

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in this issue

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Greenham Common and Aldershot show reports
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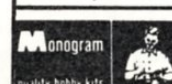
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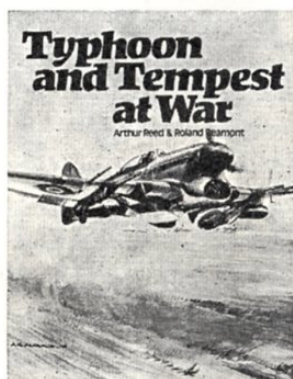
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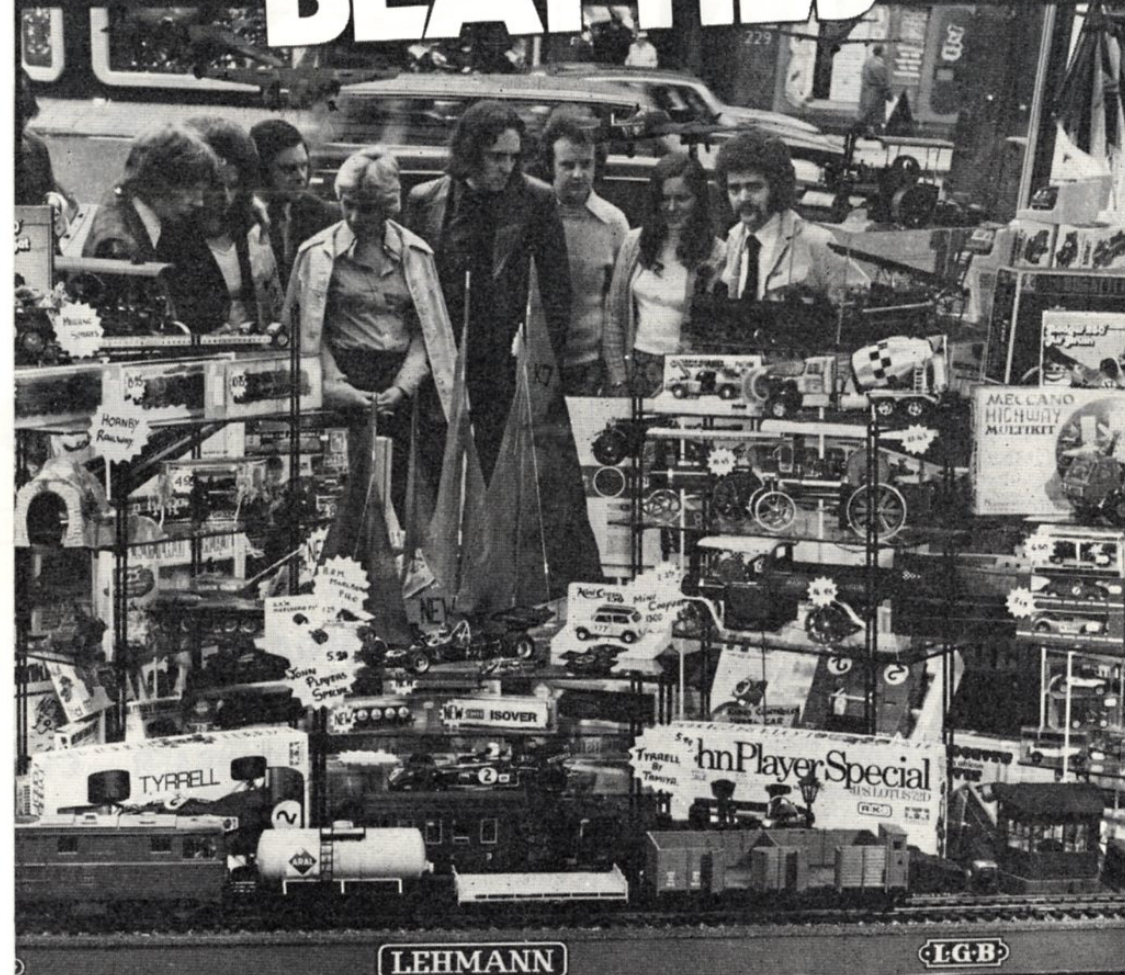
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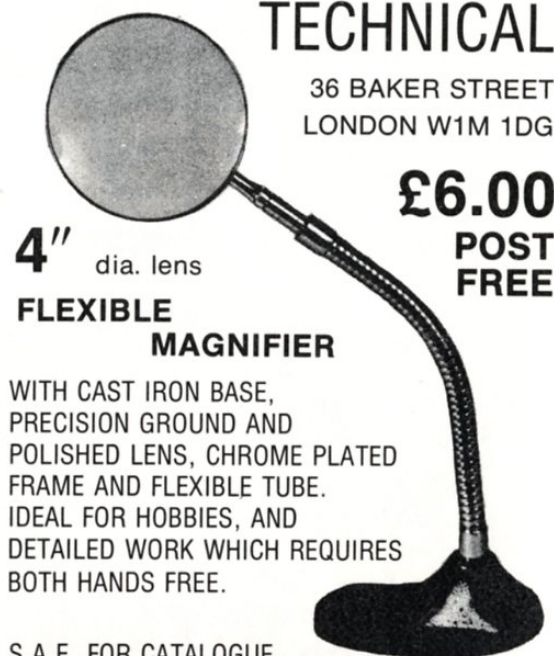
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September 1974
Volume 16 Number 1

FOR PLASTIC MODELLERS

Editorial offices
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Editorial Director **Darryl Reach**
Editor **Bruce Quarrie**
Art Editor **Ian Heath**

Cover Picture

Earlier this year, when the Red Arrows aerobatic team were warming up for the current flying season, they spent a few days at RAF Oakington — just a couple of miles over the Cambridgeshire fens from Bar Hill and the home of *Airfix Magazine*. Oakington is normally the base of Nos 1 and 2 Squadrons, Varsity Refresher Squadron and Standard Squadron (nicknamed the 'Red Barrels' — see photo below) so the antics of the 'Arrows made quite a change for local residents, who were able to gain a free view of their rehearsals. We were fortunate enough to receive an invitation from RAF Oakington to watch the 'Arrows at closer quarters, during which our editor took this month's cover photograph — then nearly got his beard singed trying to get close-ups of the Gnats taxiing! Many thanks to Squadron Leader P. R. Caley, the Senior Traffic Control Officer, for showing us around; and to all the men on the base for making our afternoon at Oakington a very memorable one.



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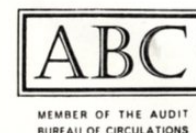
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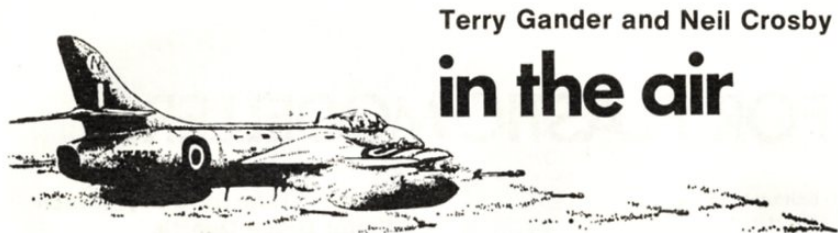
Circulation Department
Surridge Dawson and Company
(Productions) Ltd, Publishing
Department, 136/142 New Kent Road
London SE1
Tel 01-703 5480

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Airfix Magazine is published for the proprietors, Airfix Products Limited, by PSL Publications Limited, on the fourth Friday of each month. Annual subscription rate £2.88 (USA \$8.00) from Surridge Dawson & Company (Productions) Limited. Second Class postage paid at New York Post Office, NY.



September 1974



Terry Gander and Neil Crosby in the air

Greenham Common again



JULY 6 AND 7 saw the welcome return of the Embassy Air Tattoo to Greenham Common, near Newbury. This year's show was not on the overwhelming scale of the last mammoth offering but again, what there was on show combined to make this display one of the finest to be seen in the United Kingdom.

Once again the organisers pulled all the stops out and invited participants from all over the place to supply aircraft for the show, and this year's prize for the longest journey must go to a VC-121 that flew over from Sacramento in California to fly in the USAF band. Perhaps even that could be topped for the last item on the Sunday was the arrival and fly-past of an Indian AF Liberator destined for the RAF Museum at Hendon. We missed this item but there was much else to enjoy.

The Austrian AF supplied an S-65 and two Saab 105s, the Danes sent over two TF-104s which performed by flying at each other, the Germans sent a Starfighter, an Atlantique and a T-33, Do28D and C160 for the static, and the Belgians supplied two Mirages (one

Top the two TF-104s from 723 Squadron Royal Danish Air Force. **Above left** static star — the FAA Cessna Citation, N10. **Left** 50 Squadron Vulcan B2. **Below** one of the Belgian Air Force Siai-Machetti SF260MBs.



a two-seater) and four SF 260MBs. These latter aircraft have now replaced the old Stampes as the Belgian training aircraft.

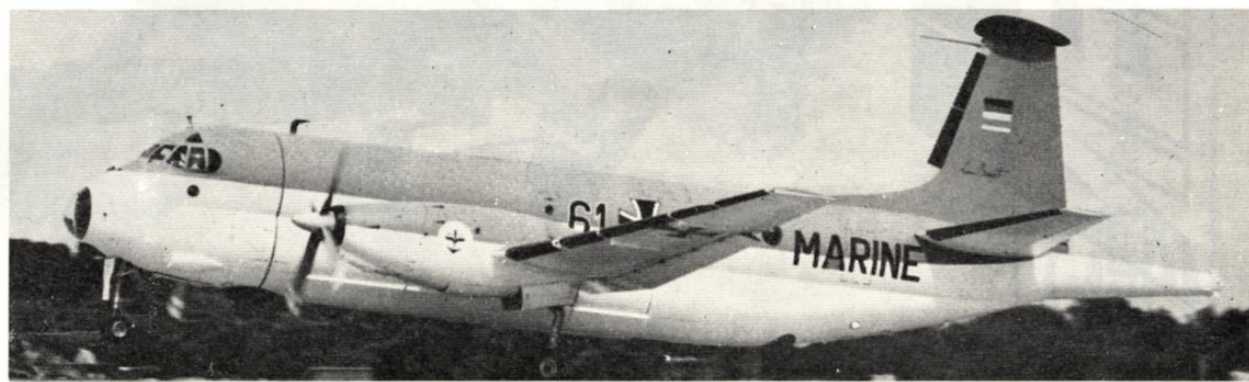
The French sent a Crusader and an Eten-dard. The Americans provided a host of goodies for the static, one of which must be classed as the static star of the show, for this was none other than a Cessna Citation belonging to the US Federal Aviation Agency. This aircraft was parked next to a Convair ET-29C. As always the RAF weighed in with their usual turns, among which was the first showing of a Bulldog duo, aptly named the 'Bulldogs', and the first showing this year of the Red Arrows. It was very noticeable that even though we and many others have seen the Lightning and Vulcan perform their noisy and hairy routines many times, they are always one of the high spots of any show. This display was no exception and was enhanced by the Vulcan on show having an extra radome pod on top of the fin. Ciwie participation was limited but two Messengers masqueraded in camouflage and the little Pitts Special cavorted in impossible manoeuvres.

The above mentions by no means cover all there was to see. We could add the delights of the RAF Memorial Flight, the Vampire and Meteor from the CFS, the Blue Eagles, and the magnificent sight of a KC-97L Stratotanker lumbering along the runway. The weather was perfect, the setting uncluttered and the show well timed and presented. What more could an aerophile ask for? We are already looking forward to the next Tattoo, but it is unlikely that it will be at Greenham Common. As we left we heard that Fairford is a likely venue.

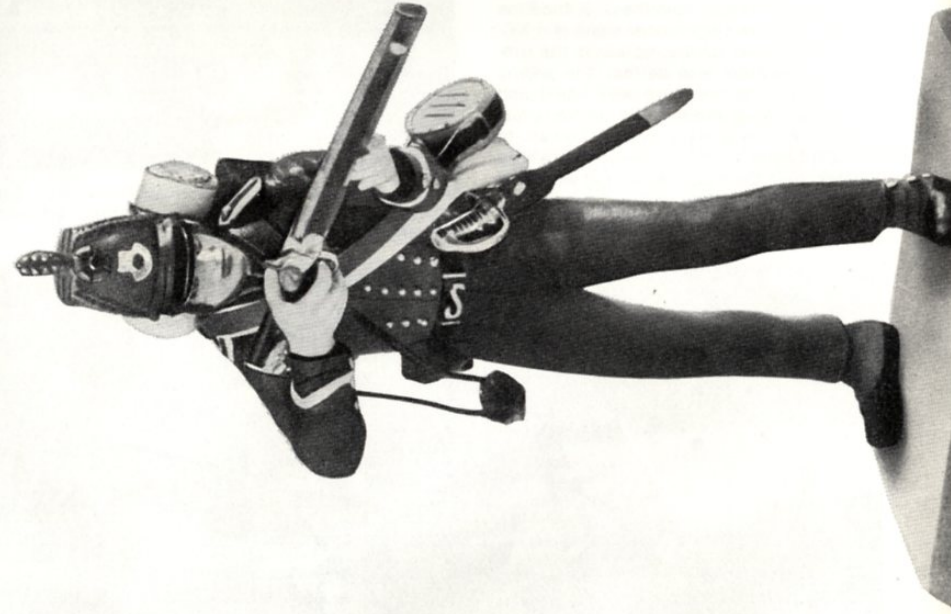
More photos on page 16



Above, top to bottom Austrian Air Force Saab 105 of No 1 Wing; 323 Squadron RNethAF Starfighter D-8098; and Belgian Air Force two-seat Mirage 5 of 8 Squadron. **Below** BR1150 Atlantic 61 + 10 from MFG3, German Navy.



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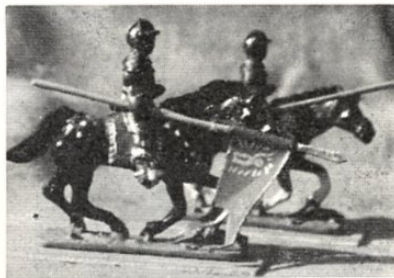
This terrific kit includes optional parts and markings for either a 'Red Pelican' Jet Provost or BAC Strikemaster.



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Top KC-97L from the 160th ARW, Ohio Air Guard. Above apart from an American flag on the centre fin, a minute 54-167 on the outer fins is the only marking carried by this VC-121. Below SA 340 Gazelle G-BAZL. Bottom the Vampire T 11 and Meteor T 7 from the CFS.



Warrior 'lobsters' used as late 16th Century French Gendarmes.

THE FRENCH MAY be said to have introduced the new era of warfare with Charles VIII's invasion of Italy in 1494, and until 1559 their struggles with the Hapsburgs dominated the military history of Europe.

In the second half of the 16th Century, French arms were turned against each other in the religious wars of Catholic and Protestant Huguenot, but in the 17th Century, with the new Bourbon dynasty upon the throne, France emerged with reorganised forces and began to climb back toward dominance of European affairs.

The Italian Wars

Cavalry In some ways still resembled that of Agincourt; the fully-armoured man-at-arms (gendarme) was still the pride and chief striking-power of France's forces. Like other such troops, the French gendarmes charged, in single rank (*en haye*) with the heavy medieval lance, backed up with mace and sword in melee, but they were more overwhelmingly aristocratic than those of other nations (even in the 1580s, when many persons 'of vile condition' had joined their ranks, over 60 per cent of them were still gentry). This probably gave them extra élan, but made them harder to control (La Noue, in the 1580s, suggested that their single rank formation was dictated by the refusal of any true gentleman to serve anywhere but in the front rank!). Their appearance emphasised their status — masses of multi-coloured plumes, richly-embroidered velvet coats worn over armour, horse-armours of mail or plate (officially reduced to frontal armour only in 1534) covered with a bard often in the colours of the captain of the company. Their furious gallantry, and the French tactic of hurling in many companies together, came as a shock to the similarly-armed Italians, and won many battles of this period.

The Ban and Arriere-Ban, strictly feudal cavalry, were used mainly in time of emergency (up to the early 17th Century), while the main strength of the Gendarmerie were the Compagnies d'Ordonnance, paid and semi-regular, though still gentry. They originally comprised 15 Compagnies each of 100 'lances'; a lance contained, beside a Gendarme, two archers, (really heavy cavalrymen, later referred to as Chevaux-legers, with at least half-armour, mail sleeves, light lance, and unarmoured horse, they may still have had a bow for dismounted use in the 1490s, later carried a pistol), a coutillier ('finished-off' enemy unhorsed!) valet, and page. Of these only the archers were com-

George Gush

renaissance warfare



Part 16 — The French

batants, possibly originally supporting the gendarmes in second and third rank, later usually formed on their own. Their proportion compared with the Gendarmerie was reduced to 1½:1 in 1534 and probably later to 1:1. Gendarme companies fell to a usual strength of 50 by the mid-16th Century, but tactical units usually seem to have been about 400 strong. Additional gendarmes were provided by the Royal Guard (usually 100 Scots, 100 French, with 400 'Archers', 100 of them Scots too) and by the companies of princes or great nobles, often over-strength.

In the Italian Wars, Italian gendarmes and mounted crossbowmen, or later arquebusiers, fought alongside the French, who also hired some thousands of Stradiots — Balkan irregulars with double-headed assegais — and introduced 'Argoulets' in

imitation of them; wearing cabacete morion, light cuirasse and mail sleeves, they were armed with crossbow — later arquebus — mace and sword. From 1529, arquebusiers a cheval were attached to support the Gendarme companies. In the earlier Italian wars — and the Wars of Religion, one third or more of a French army could be cavalry.

Infantry The native French infantry, in contrast to the cavalry, were considered unfit to take the brunt of the infantry battle. In the 15th Century a militia of 16,000 'Francs-Archers' had been set up, and some thousands of these were employed in the earlier Italian wars period, but proved highly unreliable, being finally abolished in 1535. They were variously armed and probably still included some longbowmen at the end of the 15th Century. The greater part of the French infantry, however, were mercenary



French musketeer circa 1585. Hat black, ruff white, bandolier blue, upper sleeves red and white, lower orange and white; breeches orange with gold trim, stockings blue. Has either copper coloured cuirasse or possibly sleeveless leather jacket.

Battle of Dreux, 1562, showing mounted French arquebusiers and infantry, with Landsknechts in 'pluderhosen' (see Letters page) on right.

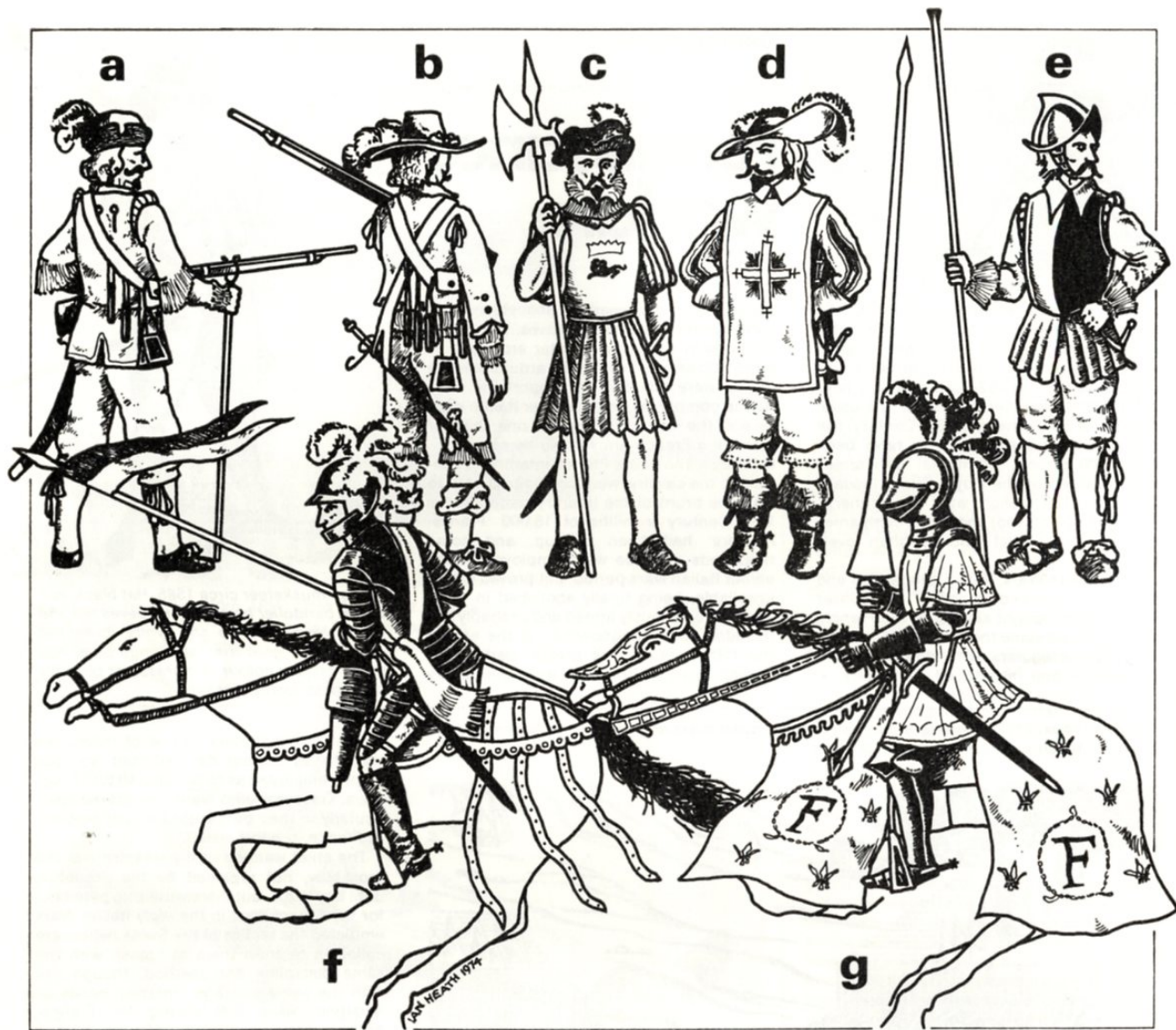


bands of 'aventuriers', some of them, like the 'Vielles Bandes de Piedmont' so constantly employed as to become virtually regulars. Gascons, who were considered (particularly in their own eyes) the best soldiers in France, predominated.

The chief weapon of the infantry was the crossbow, not replaced by the arquebus until the 1520s, but there were also pikemen, for the French foot in the early Italian Wars emulated the tactics of the Swiss (who were called in to train them at times) 'with the same discipline and method, though not with the same courage'. Infantry bands or 'enseignes' were 500 strong for Francs-Archers, otherwise 230 to 300 men.

50 per cent or more of the infantry of French armies, however, was normally mercenary; predominantly Swiss (exclusively in French service after 1516 — see February 1974 *Airfix Magazine*), otherwise Landsknechts (January 1974 *Airfix Magazine*), both at this period around 65 per cent pikemen, 25 per cent halberdiers and the like, ten per cent arquebusiers. There were also Italians, mainly skirmishers.

A new attempt at a French national infantry was made in 1531, when Francis I founded the 6,000 man 'legions' of Normandy, Languedoc, Champagne and Picardy; as with the Compagnies d'Ordonnance, only a cadre was permanently embodied, the rest mustering only occasionally in peace. Composition varied but was around 60 per cent pikemen, in burgonet, corselet and tassets, ten per cent halberdiers, and 30 per cent shot, in morions. Though of dubious value, they were maintained or revived until the wars of religion, two or three more being



a and **b** French musketeers circa 1640; note short sabre carried by 'a'. **c** Scots Guard archer of Francis I's reign showing the type of dress and armament used on dismounted guard duty at court. **d** French musketeer, mid-17th Century; hat grey or black with gilt trim and red plumes; tabard or casaque blue, cross and edge white, 'flames' in angles of cross red for Grey Musketeers, yellow for Black; jacket and breeches blue, trimmed gold; boots black with red heels; sword probably slung from embroidered shoulder belt; cuirasse under casaque. **e** French pikeman circa 1640; note extremely large garters and shoe bosses. **f** Guard Chevauleger, early 17th Century; armour and horse trappings black; sash white and gold, pennon black and white, plumes white (a 17th Century Gendarme would be similar except for the lance); armour to knees. Note pistol holsters at front of saddle. **g** French Gendarme of late 15th or early 16th Century; horse bard is that of Francis I — probably blue and gold. The rider could wear only the 'skirt' of his coat, leaving the rest of his armour (torso and arms) fully exposed.

added. Bands of around 1,000 were sometimes detached for separate service.
Artillery The French guns made perhaps the greatest impression in Italy; Charles VIII's 36 bronze horse-drawn pieces were the first effective field artillery. By 1536 the French artillery train of some 40 pieces had over 100 gunners, conductors and craftsmen, 800 pioneers, 680 horses and a picked escort of four ensigns of foot. Guns were generally heavy — in the '50s cannon,

culverins or culverin bastards-calibres being standardised in that decade (See September 1973 *Airfix Magazine*).

The Wars of Religion

Catholics For most of the period also the royal side, so inherited most of the existing army. Their cavalry centred on the gendarmerie using their old tactics, though with unarmoured horses, supplemented by Ger-

man reiters (heavy cavalry with pistols using 'caracole' tactics based on firepower — see *Airfix Magazine* October 1973), similar French pistoliers, and mounted arquebusiers, now referred to as 'carabins'. They had the legions (except Languedoc, which mostly deserted to the Huguenots) and the much better 'Vielles Bandes' of mercenaries; from these were developing the

Continued on page 20



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Regimental organisation which gave France her first permanent regular infantry units; by the later wars being of ten to 12 companies, and around 1,000 strong, but still often grouped on the battlefield in large 'battalions' of up to 5,000. They also had the Swiss, hired lansknights in large numbers, and were lent Spanish infantry. Their armies, especially the cavalry raised by nobles, were very showily-dressed, with plumes, gilt armour, velvet and gold embroidered mandellions and so on.

Huguenots For cavalry were dependent upon the 'squirearchy' of the Protestant areas, who produced a brave and ironside-like horse, distinguished by the long-sleeved white casaques they wore over their armour in old-fashioned style (their opponents nicknamed them 'Millers'). They were mostly half-armoured, and armed with sword and pistols, and though originally formed 'en haye' were taught under Henry of Navarre to form in squadrons six or seven ranks deep, charging home with the sword and using their pistols in the ensuing melee, highly-effective tactics. Again reiters were hired, some of them adopting the new tactics, and most lighter cavalry were arquebus-armed.

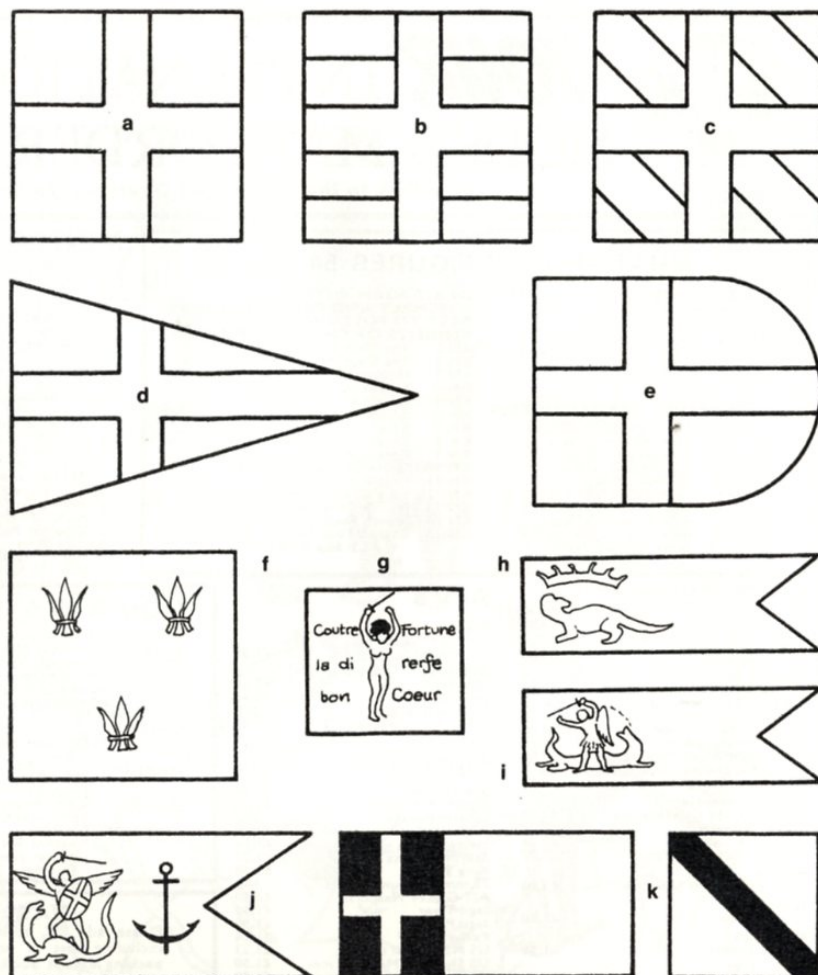
Huguenot infantry, especially at the outset, were somewhat improvised, and, even when their discipline improved, almost totally lacked pikes, being at first all arquebusiers, by the end of the wars nearly all musketeers. By 1587 they were taught to fire regular volleys, two ranks at a time, the front kneeling. They also had regimental organisation, but seem to have often operated in smaller tactical groups, sometimes interspersed with cavalry. They were supplemented by smallish numbers of lansknights, some not-very-effective English and Scots, and at the end of the wars by the Royal Swiss.

17th Century armies

Henry IV (Navarre) established the regular army in 1597 from both Catholic and Protestant troops. The French regiments, starting with 'Les Vieux' — Picardy, Champagne and Navarre, and the Garde Francaise, were made permanent, and new regiments such as Picardy, Lorraine, Normandy added; 1,200 strong, one-third muskets, two-thirds pikes. By 1609 there were 20,000 French infantry, and 12,000 foreign, mainly Swiss.

Basis of the cavalry were 4,000 regular Gendarmes, now half-armoured pistoliers, supported by sections of 'Carabins', and there was a 1,000 strong 'Corvette Blanche' of noble volunteers, a company of 200 Guard Chevaulegers, and a unit of gentlemen, the 'Carabiniers du Roy' who in 1622 became the famous company of Grey Musketeers (a company of Black Musketeers was added in 1661 — despite their name, both were heavy cavalry, the colours being those of their horses).

Under Richelieu, in the 1640s, the army was further overhauled and expanded, partly by the take-over of an army of 8,000 ex-Swedish troops previously led by Bernard of Saxe-Weimar (foreigners were reckoned



French flags. **a** the standard pattern. White cross of France. Background variable, in Italian Wars often red, but could also be striped as in **b** and **c**, or carried in alternative shapes as **d** and **e**. The older regiments carried 'a' with the following backgrounds: Gardes Francaises — blue; Picardy — scarlet; Navarre — russet; Champagne — green; Piedmont — black. **f** Royal Standard. Gold fleur-de-lys on blue background until Henry IV's reign, then and afterwards white. **g** cavalry flag 1643. Many had devices and slogans like this, but could also be a small square version of 'a'. **h** and **i** banners of Francis I's gendarmes (probably Royal Guard). Red or red and yellow with gold salamander ('h'); St Michael and dragon ('i'). **j** Catholic flag of the Wars of Religion. Background green with black and gold St Michael, wings and cross on shield white, dragon gold, red blood, anchor silver. **k** infantry (left) and cavalry flags, also from the Wars of Religion.

worth three men — one more for France, one less for the enemy, and one Frenchman released for productive work!). Infantry began to operate in small battalions of 600 to 800, usually formed six-deep, pikes (now perhaps as few as one third) in the centre (regiments could form half, one or two battalions).

Cavalry companies and cornets began to be grouped in regiments, but fought in 'squadrons' of about 200. By 1660 there were 109 infantry regiments (30 foreign, mainly Scots and Swiss), and 30 cavalry regiments. Most cavalry were ¾ or half-armoured pistoliers; there was at least one buff-coated

dragoon regiment, and there were some irregular light cavalry or 'Croats'.

The French did not adopt uniform until well into the later 17th Century, though some companies and perhaps regiments had distinctive coat colours; light grey was common, but red and blue were also worn (the latter by the Gardes Francaises). 17th Century French seem to have been distinguished by an addiction to frills, bows, ribbons and plumes, suitable to the future leaders of European fashion. In the Guards, the Scots archers in 1494 wore red, white and green striped sleeveless jacket with white and yellow collar, later usually white, trimmed with



silver. Guard Gendarmes probably had red coats. Many Guard troops would wear the Royal badge on back and breast — for example: Louis XII — a crowned porcupine; Francis I — a crowned salamander; Henry II — a crowned 'H' with a silver crescent below; and Henry IV — a club of Hercules, wrapped in a streamer bearing his motto 'Haec Quo-que Cognita Monstra'. National signs were, in the 16th Century, a white cross on back and breast, in the 17th Century a white sash. For information of the Swiss Guard, see *Airfix Magazine* February 1974).

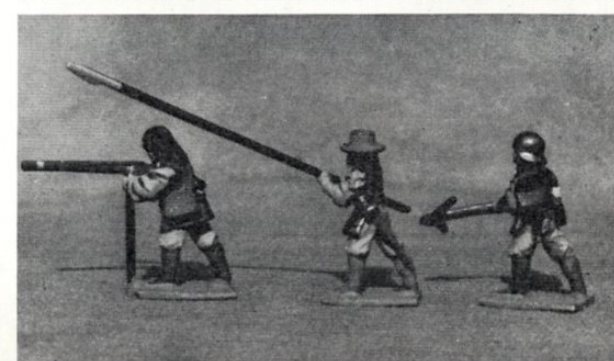
Flags

Apart from those shown, a number of regiments in the 17th Century had white flags, and these were used a good deal by the Huguenots (white being the Bourbon colour).

Charles VIII's Scots guards had a six-foot long banner in red, white and green, with St Michael (very common on French banners) and a Sun in Glory, its rays covering the whole field, both in gold.

Some of Louis XII's guards had a red and yellow flag with St Michael on it and the field charged with porcupines, while Henry II's guards had white flags with a silver crescent and the motto 'Donec Totum Compleat Orbem'. Under Louis XIII the Scots company of the Guard du Corps had a white standard with a greyhound running on a field surrounded by trees and the motto 'In Omni Modo Fidelis'.

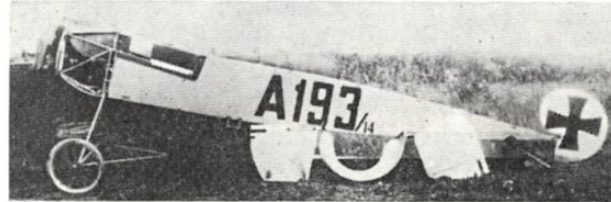
17th Century French infantry flags seem often to have had devices such as a wheel, or the sun surrounded by pointed rays and sometimes with a smiling face on it. □



Top left some Warrior ECW figures, some of the many suitable for use as 16th Century French (French sergeants in the 17th Century carried halberds like the centre figure). **Top right** Miniature Figurines 'Gothic Knights' from the 100 Years War range used as Italian Wars gendarmes with added lances and plumes. **Above right** French foot figures from Minifigs' new 'R' range. The musketeer and pikeman are suitable for Wars of Religion or 17th Century, the heavily armoured crossbowman for late 15th or early 16th Century, although in the latter case he would probably not carry a shield. **Centre right** arquebusiers à cheval of late 16th or early 17th Century. Right hand figure is Warrior dragoon (flag added), centre and left are Minifigs old 'R' range. **Below right** Italian Wars crossbowmen from Minifigs' 100 Years War range. **Below left** lancer from Minifigs' new 'R' range suitable for Wars of Religion gendarme.

German national markings 1914-1918

Part 5: German Army serial numbers described by Harry Woodman



Top to bottom Fokker M.8 (military designation A.1) 'A 193/14' shows a very decisive method of applying serials. Styles of lettering varied considerably in the earlier days but most serials were applied in a very bold manner. This was one of the unarmed predecessors of the famous E series. The large cutaway allowed the crew some downward vision, the wing being fitted on the top of the fuselage.



Two Albatros B.1s showing the strength of the all-wood fuselages. The serial on the machine on the left, 'B.83/15' appears to have been designed to fit in the available space between the tailplane and fuselage cross.



LVG C II, serial no 'C.345/16'. It appears that the repainting of the cross obliterated the 'C' of the serial. Note the Schneider gun ring with Parabellum, and signal cartridges at side of observer's cockpit.



Pfalz Dr.1 illustrates well the neat serial number system used by the Pfalz Co, also the overall good finish of their products. Despite its better design only about ten of these machines were built. The serial here is 'DR1 3050/17'. Note also the repeat of the serial on rudder top, interplane strut, centre section struts and the weights table under cockpit. The 'L' seen at top of the left strut 'V' indicates 'links' (left).

FROM AN HISTORIAN'S point of view the German system of aircraft numbering is far more important than that used by the British and French. By late 1916 the serial number carried by a German Army aircraft would indicate the manufacturer, the type of machine (purpose), the airframe registration number (Bestellnummer), the year in which it was ordered and the name of the sub-manufacturer if the machine had been licence built. As always there were exceptions to the general rule and in many cases, especially scouts, it was not uncommon for the serial number to be completely or partially obliterated by the pilot's personal motif or a unit marking.

In August 1914 the German Army had about 200 first line aircraft, most of which were biplanes. Of the monoplanes the majority were of the 'Taube' type and it should be explained here that Taubes (Doves) were built by many manufacturers and the term describes a design type based on an original design by the Austrian Igo Etrich. The Taubes varied in detail but all conformed to the basic pattern of a shoulder wing externally braced monoplane, the distinguishing feature of which was the bird shaped wing and tail shape. The Taubes, although very graceful in flight, were slow and quite unsuitable for military purposes, nevertheless these machines and the Albatros biplanes were the most common types of German aircraft seen during the opening months of the war.

The first serial numbers allocated to these early types indicated the class of machine, the order number and the year in which the machine had been ordered. The monoplanes were classed as 'A' machines and the biplanes as 'B' types, examples include a Jeannin Taube numbered A 271/14 and an Albatros B.1 numbered B 848/14.

By early 1915 the Taubes began to fade from the scene and the machines remaining were mostly two-seat biplanes of the 'B' type although a few monoplanes of Fokker and Pfalz construction were used for one purpose or another.

In mid-1915 a new type of two-seater biplane appeared at the front armed with a machine-gun fitted to a gun ring for use by the observer who now sat behind the pilot. The appearance of these machines reflected the changing pattern of the war on the Western Front and were given the new classification of 'C' types. They replaced the earlier 'B' types which were relegated to training duties. Later C types also carried a fixed forward-firing machine-gun for the pilot's use.

The advent of the Fokker M.5K monoplane fitted with a machine-gun in late 1915 led to the introduction of a new classification, the single-seat armed fighting monoplane. Until it was fitted with a gun the Fokker was classified as the A.III. It now became the E.I and other armed single seat machines were also placed in this class (eg the Pfalz).

Eventually, in early 1916 the Fokker monoplanes were outclassed by the superior Allied types appearing at the front and the need for a single-seat armed biplane scout (the term 'fighter' was not used at this

Continued on page 24

The F-15 Eagle, described as the "best, most manoeuvrable fighter ever built" is the first pure air superiority fighter to be developed for the USAF since the F-86 Sabre of 1948. High performing, heavily-armed, agile enough to perform 5g turns which would rip most aircraft to pieces, the F-15 has been designed to fulfil one specialist role: to rule the skies during the late seventies and early eighties. In simple terms, a dogfighter.



First requirement for a new air superiority fighter came from the USAF in 1965. Known first as the FX project, McDonnell-Douglas won the formal design competition and Pratt and Whitney the contract for the turbofan power units. Air superiority requires a combination of performance, avionics and weaponry, and McDonnell-Douglas made some 500 design studies of features for the aircraft. High speed agility was of prime importance. The need to save on weight, cost and complexity ruled out a variable-geometry layout, but twin engines were adopted for survivability. Multiple control systems will keep the F-15 fighting in the face of battle damage, and the engine is module-built to allow for rapid repair. Off-the-shelf avionics have been used wherever possible, and flying controls have been kept simple.

Main weapon for the F-15A is a General Electric 20mm Gatling gun mounted in the right hand wing root. The new Philco-Ford 25mm gun - 6,000 rounds per minute! - will be fitted to the second Air Force wing. Missile armament is a mix of 8 Sidewinders and Sparrows and the Navy's new Agile may be adopted later. Just as important as

the impressive array of weaponry itself is the Hughes APG-63 "dogfighting" attack radar which gives the pilot a continual flow of information and calculations for air-to-air combat.

The USAF has made some proud claims for the F-15. They say it will out-climb, out-maneuvre and out-accelerate any MiG now or in the next decade. In simulation exercises against a MiG-25 Foxbat the Eagle has proven superiority with either gun or missiles. Even assuming that Soviet missile technology is further advanced, the F-15's manoeuvrability will still give it a clearly-defined edge.

The Eagle made its first flight at Edwards Air Force Base on July 27th 1972 and by the end of 1973 eleven were involved in test flight studies. Fully operational deployment should be attained during 1976. The Eagle, with its smooth flat surface area painted "air superiority blue" looks every inch a lethal weapon. The dogfighter has returned.

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Return of the Dogfighter!

time and indeed the designation 'scout' remained in use until the end of the war). The requirement for a biplane scout as opposed to a monoplane, despite the success of the Fokker E.1-E.III series, was not unusual, for a biplane offered the superior qualities of manoeuvrability and climb as opposed to the poorer performance of the monoplane of that period. The success of the Fokkers was in fact largely a fluke due to certain circumstances existing at the time. The new type designation was 'D' and this classification remained in use for biplane scouts until 1918 when it was applied to the Fokker D.VIII parasol monoplane which had originally been classified as the E.V.

In early 1917 a new type of fast two-seater had been envisaged for escort duties in units to be known as Schutzstaffeln. These machines were to be lighter in construction than the usual two-seater of the C type and were to have a performance correlative to their duties. These machines, given the class designation 'CL', were, however, reorganised into Battle Flights (Schlachtstaffeln) and were used in offensive roles. The most outstanding machines in this class were the Halberstadt CL II and the Hannover CL II/III. Later in the war, armoured machines specifically designed for trench strafing and close support work were introduced and were given the classification 'J'.

The Germans had been interested in large multi-engined aircraft since the earliest days of the war and twin engined machines of the AEG and Gotha-Ursinus types had been used in limited numbers since early 1915. Because of their size they were called Grossflugzeuge and classified as 'G' types. The very earliest attempts by the Germans to build very large four-engined machines resulted in these being also classed as Gs, but they were later reclassified as 'R' types, the best known examples of these being the enormous Zeppelin Staaken 'Giants'. The 'R'



Halberstadt CL IV built by LFG (Roland) in factory-fresh condition shows the full serial number 'Halb.C.L.IV (Rol.) 8171/18'. Quite a lot more can be seen in the original photograph, including the table of weights which became more and more prominent on German aircraft in the last two years of the war. The table seen here under the serial reads:

Leergewicht 720 kg (Weight empty)
Nutzlast 340 kg (Useful weight or pay load)
Zulässiges Gesamtgewicht 1060 kg (Overall permissible weight)
Apart from this, the aircraft serial is repeated on struts, engine cowling, undercarriage members, tail skid and the unidentified flag-like item on the gun ring. Rarer on German machines is the instruction seen on the lower fuselage just in front of the skid, 'Hier anheben' (lift here) (Alex Imrie).

signified 'Riesenflugzeug' (literally Giant aeroplane). The classification G was then reserved solely for twin-engined bombers of Gotha, AEG, Friedrichshafen and Rumpler types.

Certain terms, abbreviations and designations frequently crop up when reading through literature concerned with the German Army aircraft which sometimes confuse people. The classifications given above are the official ones for machines which went into service however, other terms are used such as the manufacturer's production

number etc, and some examples are given below.

'DD' Abbreviation for 'Doppeldecker' and merely means 'two wings', or biplane. It is a pre-war term but was often used in the early days of the war. Sometimes the single 'D' was used meaning the same thing.

'M' Indicates 'Militärmaschine' or military aircraft. Sometimes used by a manufacturer (eg Fokker) to indicate that machine was designed specifically for military purposes although frequently the aircraft was no different from the original.

'E' Indicates 'Eindecker' or single-wing machine (monoplane) which is self-explanatory. Some firms used this with a prefix indicating the manufacturer (eg Gotha LE 3 Taube). The letter could also indicate 'Einsitzer' or single-seater.

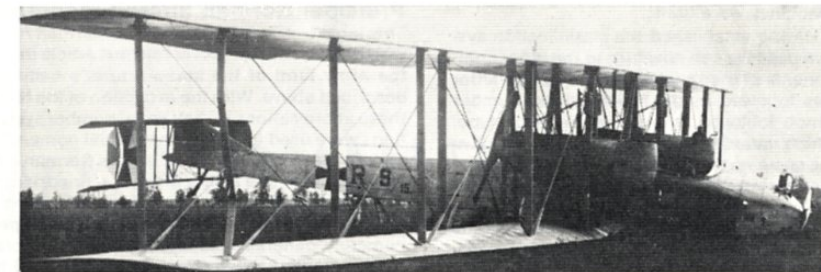
'K' Usually an abbreviation for 'Kampf' or 'Kämpfer', meaning fighting machine. The first twin engined AEG was designated K.1. It might also mean 'Krieg' (War) in some cases.

All of the above were used in the early days of the war and indeed before the war. British sources at this time referred to the various types of German machines according to the year in which it was supposed that it had been designed. In consequence machines were referred to as the 1914 type Albatros or the 1915 model Fokker etc.

Apart from this aircraft were sometimes referred to by their manufacturer's model number and this can lead to confusion. For example, the Junkers armoured biplane which arrived at the front in 1917 was given



Top left close-up of Fokker D.II scout cockpit area. Note serial style and position which became standard for Fokker types. Although part of the serial is not in the picture, the whole sequence is 'Fok. D II 2386/16'. Top right handling qualities of the large 'R' planes were not good, as may be imagined, and great skill as well as great strength was required of the pilots. This is the Zeppelin VGO II, 'R.9/15', on the Eastern Front at Paulsgrad. It has three engines, two in nacelles as pushers and one in the nose. The VGO in the name indicates the fact that the machines were first built at 'Versuchs Gotha - Ost' (versuchs means experimental). The aircraft were later built at Staaken. Centre left Rumpler C.1, 'C.4652/15' illustrates the



most common position for the serial on the vertical fin (Alex Imrie). Centre right Pfalz E.1, serial no 'E.1.479/15'. Contemporary with the Fokker monoplanes scouts, the Pfalz was a licence-built version of the Morane Saulnier monoplanes. The black edging was a common feature of Pfalz machines of this period. Above left Junkers J.1 armoured two-seater, serial no 'J.119/17'. Quite a remarkable machine for its day, mainly for the extensive use of metal in its construction. In conception it was years ahead of its time and had an armoured 'bathtub' for pilot and observer and engine protection 25 years before the Russian Il.2. Above right Fokker D.VII with typical serial number in the style of the firm which built this machine under

licence, Albatros. The full number shown is 'Fok.D VII (Alb.) 5220/18'. Below left close-up view of port engine nacelle of Friedrichshafen G.III bomber shows the system of numbering the various components. The markings seen here consist of the full serial number 'Fdh.G.III (Daim.) 779/18' which is repeated on the rear of the nacelle as well as the central portion. Below right Gotha G.III after a nasty landing, not unusual for these notoriously tail-heavy machines. The serial style is typical for Gotha bombers right up until the very late models of 1918, the position on the fuselage never changing. Later machines built under licence by LVG used a much smaller serial style which provides a good recognition feature.

Summary (in alphabetical sequence)

Prefix

code Type of aircraft

- A** Unarmed two-seat monoplane, principally Taubes.
- B** Unarmed two-seat biplanes, by late 1915 usually indicated a training machine.
- C** Armed two-seat biplane; initially with one gun, later two and used for general observation, artillery spotting and occasional bombing purposes.
- CL** Two-seat biplane of lighter construction than C type, armed and of superior performance. (Later, monoplanes given this classification).
- CLS** Late sub-classification for light armoured attack biplane.
- D** Armed single-seat biplane, one or two guns. In 1918 was applied to monoplanes in the same class.
- DJ** Late sub-classification; as for D but armoured for trench strafing.
- Dr** Triplane aircraft, the fourth Fokker triplane built was so designated (see F).
- E** Armed single-seat monoplanes, mainly Fokker and Pfalz types.
- F** Only applied to the first three Fokker Triplanes built.
- G** Initially all multi-engined aircraft then specifically for twin engined bombers.
- GL** Late sub-classification of the twin-engined bomber type with lightened airframe.
- J** Armoured two-seater biplane specifically designed for supporting ground troops.
- N** Late classification for a single-seat night bomber.
- R** Large multi-engined bombing aircraft.
- S** Late classification for a single-seat armoured attack machine.



the Army classification of 'J' and it became known as the J.1. Unfortunately the letter 'J' was also the company's abbreviation and the same machine was the Junkers Company's product J.4. Similarly the same firm's J.10 low-wing two-seat monoplane attack machine of 1918 was given the Army classification of CL 1.

Many machines never developed further than a few prototype models and in consequence never received an Army classification. On the other hand, several did receive a military serial although they never went into production. Good example of these are

those single-seat scout prototypes which were submitted for the 'D' types competitions towards the end of the war. Examples of these include the Daimler L6 which participated in the Aldershot competition of May-June 1918 under the designation of Daimler D.1, only about six of these

machines were built.

Having established the classification system used we can now turn to the other components of the serial number. The type letter was followed by the military order number which followed in a series for each type, which meant that two machines could have the same number but differing prefixes. The number was then followed by the year indicating when the machine was ordered (not necessarily when it was built). This took the form of a smaller pair of numbers often separated from the main serial by a diagonal line (eg C 4652/15). The position of the serial number on the machine varied, especially in the earlier years. It was usually on the fuselage sides sometimes in front and sometimes behind the cross and frequently on the vertical fin. The size and style of the number varied from manufacturer to manufacturer and also the sub-contractor often had a style peculiarly his own. In many cases the serials were applied by freehand often with some style (no doubt recruited signpainters found their niche here). Later more formal styles began to appear, painted in freehand to a set format and a designated style of lettering, or a stencil was used. Apart from the serial numbers other numbers and cyphers were applied such as part numbers and trade marks.

By 1916 another item began to appear in addition to the serial number and that was the official abbreviation for the manufacturer's name. As the demand for aircraft increased many aircraft were built by sub-contractors and they began to add their own abbreviation to the number (but not in every case). This consisted of the official abbreviation of sub-contractor enclosed in brackets immediately following the name of the parent design company. Even this had its complications for in some cases the sub-contractor omitted the design company's name with the result that confusion arose, especially at the end of the war when the Allies tried to identify the various types. This confusion is well represented in the 1919 *Janes*. A good example of this was a machine referred to as the Aviatik C VI which was in actual fact a DFW C V built under licence by the Aviatik Co. Another example is the Albatros D.II scouts built by the LVG Co under licence. These were designated LVG D.I in the company records and the inclusion of this information in archive sources might well lead an historian astray. Such are the hazards of research!

As mentioned, some sub-contractors did not advertise their products in the serial numbers and it is only with a knowledge of various batch numbers that many such machines can be identified, although some can be easily pinpointed by the style in which the serial is displayed.

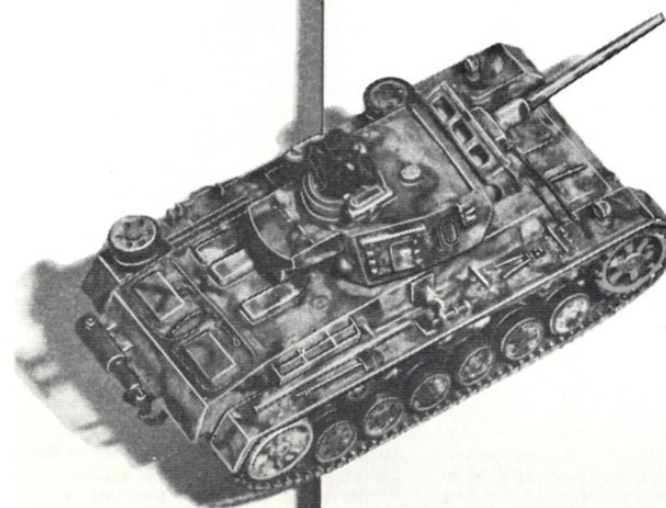
It will be appreciated how informative the German Army numbering system can be from the above survey and that when we come across a photograph of a badly damaged machine and the serial can be seen to be 'Fdh D IV Daim. 1074/18' it is instantly identifiable as a twin engined bomber of Friedrichshafen design, type IV, license built by the Daimler Co, ordered in 1918, military order number 1074. □

Principal German aircraft manufacturers and official abbreviations

This table overlaps this feature on German Army serial numbers and the German Naval system which will be the subject of the next article in this series. The abbreviations shown at the left are the Army form of the manufacturer's name and appeared in the aircraft serial number as described above. With the exception of the Naval Field Units, German naval aircraft did not use these abbreviations in their serial number system as will be shown later. However, the abbreviations were used as part of the official nomenclature of the aircraft. In some cases, of course, a factory built only seaplanes for the German Navy and in one case the Naval abbreviation was different from that of the Army, the Friedrichshafen seaplanes were designated FF whilst the Army aircraft used the form Fdh. The name in italics is that usually used to indicate the aircraft. Where an abbreviation does not appear on the Naval side it is an indication that the company generally did not build naval aircraft; however some companies did build naval aircraft under licence from another (eg LVG built some Sablatnig seaplanes).

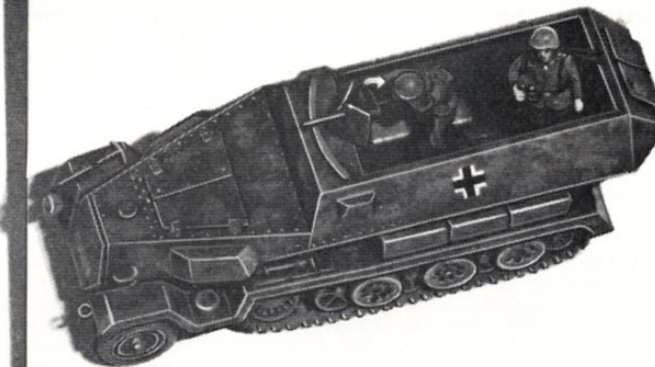
Army abbreviation	Company	Naval abbreviation
AEG	Allgemeine Elektrizitäts Gesellschaft, Henningdorf.	AEG
Ago	Ago Flugzeugwerke GmbH, Johannisthal, Berlin.	Ago
Alb.	Albatros Werke GmbH, Johannisthal, Berlin. Albatros Gesellschaft für Flugzeugunternehmungen mbH Friedrichshafen (seaplanes).	Alb.
Av.	Automobil und Aviatik AG, Leipzig-Heiterblick.	—
Br.	Hansa and Brandenburgische Flugzeugwerke, AG, Brandenburg am Havel.	Br.
Daim.	Daimler Motorengesellschaft Werke Sindelfingen.	—
Dfw	Deutsche Flugzeug-Werke GmbH, Lindenthal bei Leipzig.	—
Eul.	Euler-Werke, Frankfurt am Main.	—
Fok.	Fokker Flugzeug-Werke GmbH, Schwerin-Gorries, Mecklenburg.	—
Fdh.	Flugzeugbau Friedrichshafen GmbH, Manzell and Warnemünde (repair work at Warnemünde only). Zeppelin subsidiary.	FF
Go.	Gothaer Waggonfabrik AG Gotha.	Go.
Halb.	Halberstädter Flugzeug-Werke GmbH, Halberstadt.	—
Han.	Hannoversche Waggonfabrik AG, Hannover-Linden (known as 'Hawa' for short).	—
Junk.	Junkers Flugzeug-Werke AG, Dessau.	Junk.
—	Kaiserliche Marinewerft GmbH, (Imperial Dockyards) Danzig, Kiel and Wilhelmshafen.	KW
LiHo.	Linke und Hoffman Werke AG Breslau.	—
Rol.	Luftfahrzeug Gesellschaft mbH (LFG), Berlin-Charlottenburg and Stralsund (seaplanes). (Aircraft called <i>Rolands</i>)	LFG
LVG	Luft-Verkehrs Gesellschaft mbH, Johannisthal bei Berlin.	—
—	Oertz-Werke GmbH, Reiherstieg bei Hamburg.	Oertz
Oaw	Ostdeutsche Albatros-Werke GmbH, Schneidermühl.	—
Pfal.	Pfalz Flugzeug-Werke GmbH, Speyer am Rhein.	—
Ru.	Rumpler Flugzeug-Werke GmbH, Johannisthal Berlin.	Ru.
Sab.	Sablatnig Flugzeugbau GmbH, Berlin.	Sab.
Schül.	Luftfahrzeugbau Schütte-Lanz, Mannheim-Rheinau also at Zeesen bei Königswursterhausen.	—
Ssw.	Siemens-Schuckert Werk GmbH, Berlin and Nürnberg.	—
—	Flugzeugwerke Lubeck-Travemünde GmbH, Travemünde-Privall.	Trav.
Zeppelin Group		
—	Zeppelin-Werke GmbH, Lindau, Lindau and Seemoos (Dornier, Giant 'Rs' flying boats).	Do.
Staak.	Zeppelin-Werke Staaken GmbH, Staaken bei Berlin (Giant 'R' landplanes). See also Friedrichshafen.	Staak.

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A masterpiece of German half-track construction. First produced in 1940 to carry troops, it was used throughout W.W.II, in many different versions. This is the model with dials on the dash and foot pedals for the driver. Kit comprises 60 parts and scale track, Commander and crew member both free-standing! Decals for 3 versions and guides for alternative colour schemes. Price 55p.



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Phantom details and conversions

Improving and modifying the basic Airfix kit described by **Bryan Philpott**

TWENTY-ONE YEARS ago McDonnell (now McDonnell Douglas Corporation) started design work on a single-seat, long-range carrier-borne attack aircraft. Designating it the F3H-G, the design team based their ideas on the F3H Demon which was the third successful Navy jet to have come from the McDonnell factory. The other two were the FH-1 Phantom — the first jet aircraft to operate from a US Navy carrier — and the F2H Banshee. All three shared their pedigree with the Company's F101 Voodoo for the USAF, so the qualifications for tackling the task the design team had set themselves were unquestionable.

The F3H-G was to be fitted with two Wright J65 turbo-jets installed side-by-side, four 20 mm cannons, and be fully equipped with airborne-interception radar. In this configuration it anticipated the requirements outlined by the US Navy in September 1953, it was therefore no surprise when in October 1954 the Navy's Aeronautics Board gave the go-ahead for two prototypes.

During the next year several changes to the original design concept were specified by the Navy and gradually the AH-1, as it by now had been designated, undertook a new look which was to evolve as the F4 Phantom II.

In July 1955 the type was again redesigned becoming the F4H-1 and by November of that year a full-size mock-up had been

completed. By August 1956 work had started on the first airframe and twenty months later, on May 27 1958, the XF4H-1 made its first flight from the McDonnell airfield near St Louis, Missouri.

Since these comparatively normal beginnings, the Phantom has become a legend in its own lifetime and has deservedly reserved a niche in aviation's hall of fame. As well as serving with the US Navy and Marine Corps the Phantom also became part of the USAF's inventory therefore becoming one of those comparatively rare breeds of aircraft designed primarily for carrier operations, but being successfully adopted by land-based air forces.

It also spread its wings to the UK where in the F4M and F4K versions it was enrolled into the Fleet Air Arm and Royal Air Force. The Israeli, Iranian, Japanese and German air forces, to mention only a few, soon recognised the potential of this powerful aircraft and long after it has been replaced in the United States inventory of fighting equipment, it will continue to give legion service to other air forces.

Naturally the success of the Phantom is echoed by the number of kits available. These range from the diminutive 1:100 scale by Tamiya, through 1:72 and 1:50 to Revell's 1:32 scale in which two versions are available. But it is in 1:72 scale that the model-maker really comes into his own, for not only

is this scale the one favoured by the specialist decal and accessory manufacturers, but also where most variants are likely to be found.

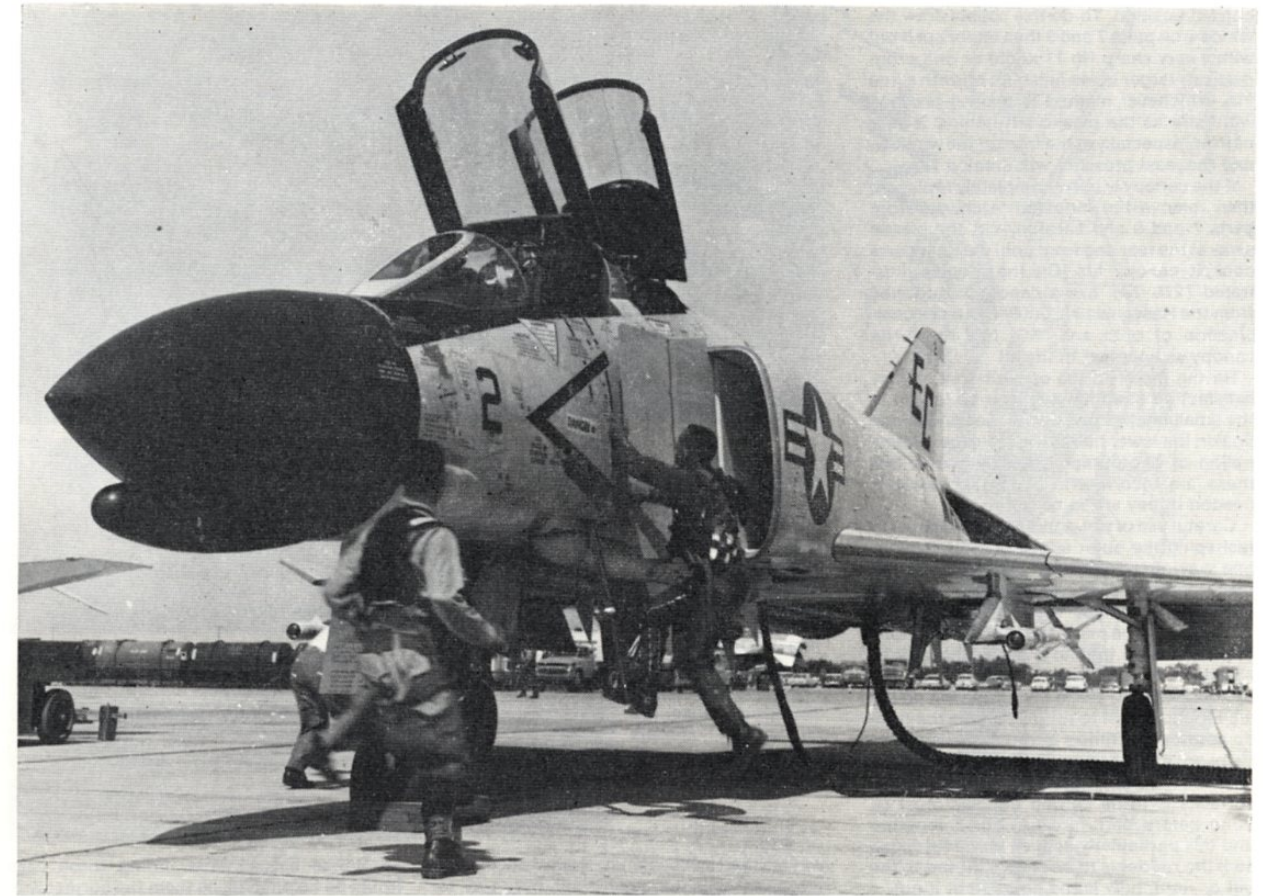
The Airfix kit was re-issued in 1972 with parts included that enable five versions to be made. Although this kit is fairly accurate in overall appearance and size, there are several areas where improvements can be made and the purpose of this article is to discuss these as well as give suggestions for adding additional information.

The absolute purist who is not inhibited by a pocket-money budget will find that the best way to obtain a 100 per cent accurate Phantom is to combine parts from several kits, but clearly this is not possible for the majority of readers. However, if the Hasegawa F-4E or F-4EJ can be purchased it is well worth doing so for parts from either of these kits can be used as patterns to scratch build or replace some of the less accurate parts in the Airfix kit.

The quantity of specialist decal sheets for the Phantom grows almost daily and those produced by Microscale in the USA and Modeldecal in the UK are among the most accurate and colourful available. At the time this article was in preparation Microscale had just released their sheet No 111 which covers three CAG and CAW aircraft, it was decided therefore to use this sheet for the models described. The detail work, modifications and additions apply to most versions but where one particular facet applies to the model being described, this fact will be made clear in the text.

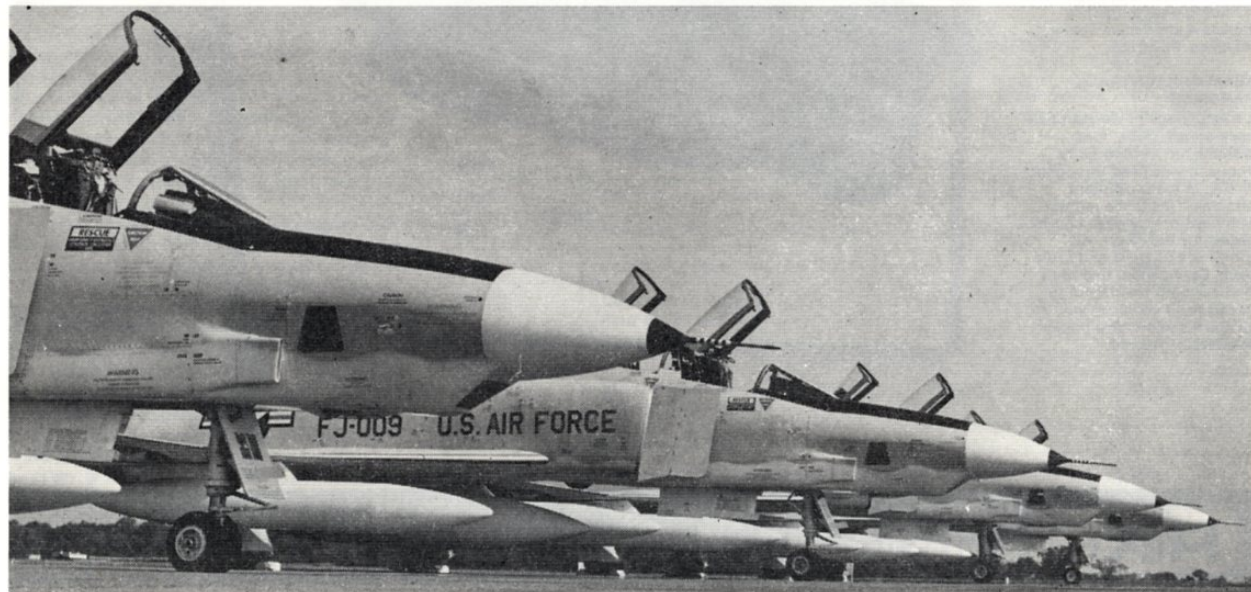
The order in which the work is carried out is of little importance except where changes have to be made to components that fit together or within the fuselage halves, which must of course be done before these are cemented together. With the latter in mind a good starting point is the cockpit.

The cockpit floor, part 5, ejector seats



Scrambling an F4B of Marine Squadron VMF-531. A great deal of detail is visible in this photo, which would also make a good diorama subject.

A line-up of USAF RF4Cs. Note stencilling and nose details (McDonnell Douglas photo).



parts 3 and 4, and control column part 6, are all rather basic in the Airfix kit and can be greatly improved with a minimum amount of effort. The seats are too far forward in location if the floor is put into the places provided for it in the kit, so to change this simply remove the 'L' shape at the front of part 5. This operation enables the floor to be moved back in its recess to a point where the seats are located correctly. The seats themselves are rather shapeless and are best replaced by new ones made from plastic card and pieces of sprue carved to shape. The seats provided in the Hasegawa F-4E are much better representations of ejector seats and can be used as a basis on which to build the new ones, or if you are lucky enough to own a Mattel Vac-Form machine, as a master to mould two new ones. The seats can further be improved by adding the back pack from strips of thin cartridge paper or plastic card painted light brown, the firing handles, painted in yellow and black diagonals, from wire, and the safety straps from microstrip or masking tape painted a greenish-brown colour.

The complete cockpit floor well, part 40, in the Hasegawa F4E can be fitted into the Airfix kit but as already stated this does make

for an expensive model, so the best way to overcome this is to build-up side consoles and instrument panels from plastic card using the Hasegawa part as a model. Instrument panels are provided on the Modeldecal Phantom sheets but not on the Microscale sheets, you must therefore cannibalise a Modeldecal sheet or alternatively scratch-build the panels from card suitably painted. The rear panel for the radar operator in the back seat should be built up between the seats and, once again, part 22 in the Hasegawa kits provides a useful guide.

The control column should be thinned down by careful sanding and reduced in height so that it clears the instrument panel. A pair of throttles can be added on the left-hand (looking forward), while consol and rudder pedals made from microstrip and fitted to the front of part 5 will also add to the cockpit's equipment. The coaming in front of the pilot is incorrect in the kit and should be increased in height and angle of slope as shown in the drawings. This work cannot be done until the fuselage halves are put together but should not be forgotten as it does add a greater air of authenticity to the completed model. The coaming can be made by adding Green Stuff or body putty to

the fuselage and smoothing it to shape with the blade of a modelling knife, taking care to prevent it being built too high or reaching too far forward where it could easily affect the fitting of the windscreen. When the cockpit area is complete put it on one side and paint the inside of the fuselage halves before inserting it, this is most important and the paint should extend well aft into the fuselage or an unpainted area will be seen through the canopy. I prefer to paint the whole of the inside of the two halves then there is no doubt as to any areas left unattended.

Before leaving the cockpit area it is worth considering how the canopy is to be improved. The 'archway' between the two seats has a triangular shaped window in it and this is missing from the Airfix kit, but it is vital that this is added or the whole purpose of improving the model and adding extra detail will have been wasted.

The easiest, but least convincing way, is to paint the window in position after the model is complete; the best and most convincing, is to carry out major surgery and replace the whole Airfix canopy with the Hasegawa one. A happy medium is to use the rather thick canopy provided and cut the window into the

correct position. To do this simply draw the window on parts 7 and 9 then either cut it out with a very sharp No 11 xActo or drill progressively larger holes finishing off with a fine file. Whichever method is chosen proceed with care as the plastic left behind is very narrow, especially at the front of the window, and the least pressure will break it.

If the canopy is to be completely replaced, then remove the moulded 'archway' from parts 7 and 9 and carefully cut the plastic away at the rear and front until the Hasegawa cockpit canopy fits. On the models illustrated 7270 'NH' has a canopy vac-formed from the Hasegawa kit, 3009 'NL' has a combination of both and 'NG' has the Airfix canopy as supplied in the kit.

Having modified the cockpit area to your satisfaction attention can now be turned to the small intakes just below the windscreen line on the lower half of the fuselage. Examination of photographs quickly shows that these are incorrect in shape and work is needed if they are to be put right.

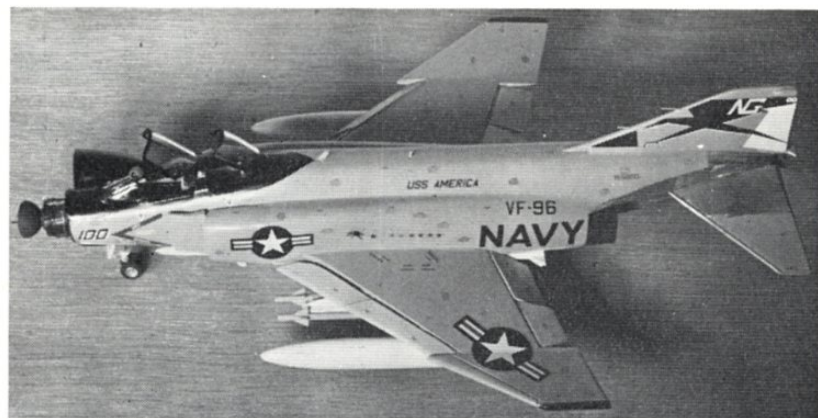
Careful use of wet-and-dry or sandpaper in reshaping the outer edges of the intakes is one way of tackling this job but by far the best method is to remove the moulded intakes and replace them with new ones. These should be made from two laminations of plastic card, the inner one being slightly shorter than the outer, this provides the definite intake lip shape that is missing on the kit. I found it best to roughly shape the plastic card before fitting it to the fuselage and carry out final shaping when it was firmly set in position. If any displacement of control surfaces is to be carried out this must be done before parts are cemented together and this particularly applies to the fuselage, so if the rudder is to be shown moved to the left or right, now is the time to cut it out.

When all the detail work has been carried out to the fuselage cement the two halves together and leave them to set well before sanding the joint lines smooth.

When this has been done the intake at the base of the fin can be added. Measure a quarter of an inch from the point of the fin where it joins the fuselage towards the trailing edge and make a vertical cut with a razor saw. Now, using a sharp modelling knife, gently cut out the small triangle and sand the area smooth. The fin will now appear to end in a blunt vertical wall at its forward end. Cut a piece of 20 thou plastic card to fit into the area where the piece was removed, cement this in place, and when it has set, shape it so that its top edge is a continuation of the fin leading edge. This piece of plastic card should be mounted centrally along the fin's thickness thus leaving an area each side representing the intake.

Whilst this intake is being fitted the moulded pressure heads on the leading edge of the fin should be removed, since they are better represented by wire or stretched sprue and can be added when all the major modifications have been carried out.

The next area that needs correcting is the lower fuselage cross-section between the jet pipes on part 24. In the Airfix kit the section is produced as two humps with a semi-circular area joining them, but the area between the jet pipes should be flat and is shown very



Above super-detailed model of the VF-96 F4J, with open canopies and radome, displaced control surfaces etc. Centre model F4J of VF-114. Bottom model F4B of VF-51. These are the three aircraft depicted in the drawings opposite, and utilise the Microscale decals (sheet 111).



well in the Hasegawa kit. Hard work with a file and then sandpaper is the only way to correct the Airfix kit and it must be done if an accurate model is to result.

Once the work so far detailed has been carried out the various sub-assemblies can be put together making sure that the correct tail pipes, nose cones etc are used for the model being made.

Whilst the main structure is setting and the various joints have been filled with Green Stuff or body putty, time can be usefully occupied by modifying some of the other minor components.

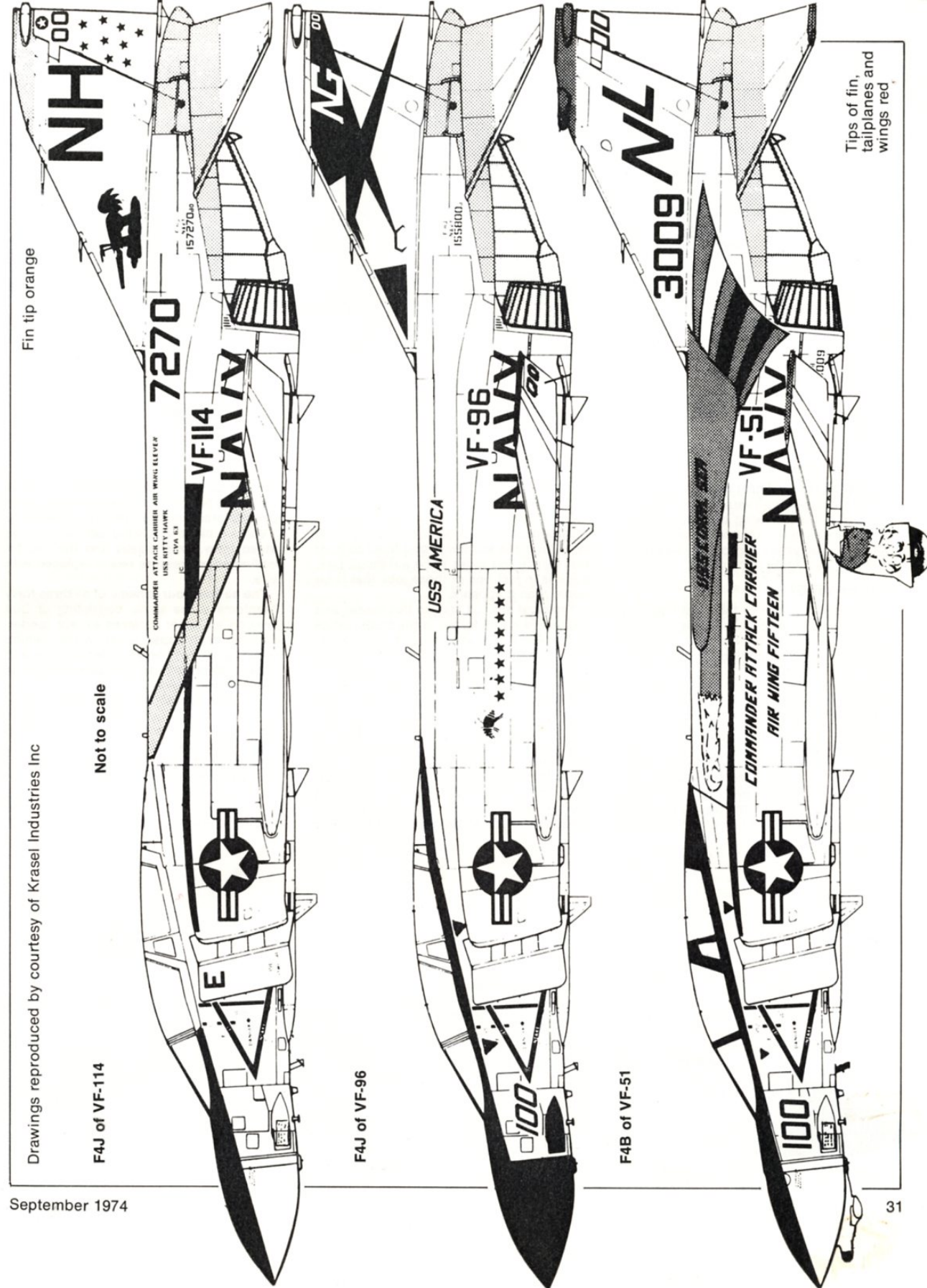
All the wheel well doors need some attention if they are to be true representations of the parts fitted to full-size Phantoms. Part 32, which is used on all versions except the F4E, must have a small area removed from the front as shown on the drawings, and parts 35/39 must be completely reshaped using either the Hasegawa parts 24 and 46 as patterns or the accompanying drawings. Similarly parts 36, 37, 41 and 42 need minor attention to give them the correct shape. While these parts are being reshaped they should also be thinned quite considerably as they are far too thick for an accurate scale appearance. One way around this is to replace all doors with new ones made from 20 thou plastic card using the Hasegawa kit or drawings as patterns.

The main undercarriage legs, parts 34/40, can be improved by removing the moulded retraction jacks and replacing them with longer ones made from plastic rod or

stretched sprue. When fitting these care must be taken to place them the correct way round, which is with the axles pointing inwards, they must also have the correct wheels for the model being made fitted and care in reading the instruction sheets is essential.

The inner wing pylons, parts 43/44, are completely incorrect as far as the overall shape is concerned but two cuts with a sharp modelling knife, and attention from fine grade sandpaper soon puts these right.

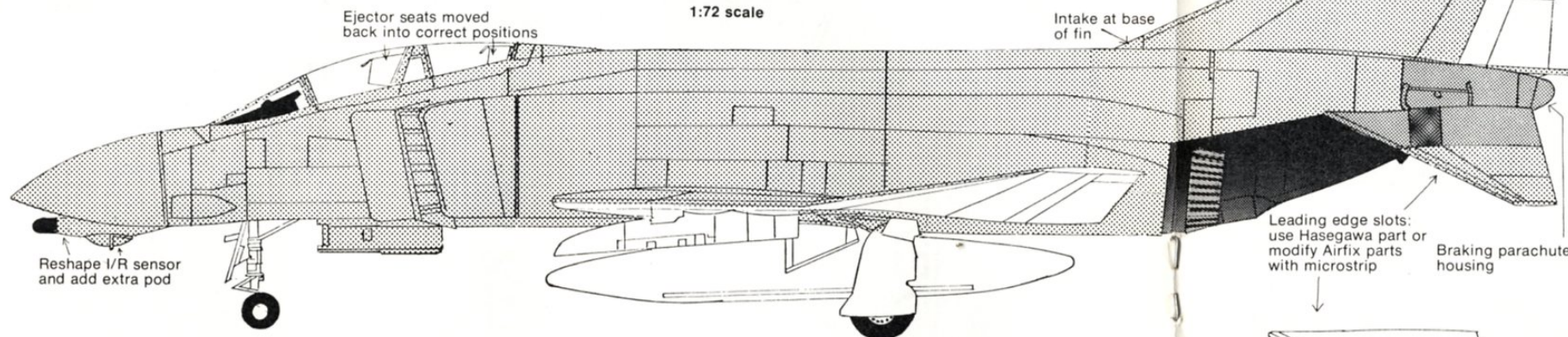
Earlier, mention was made of displaced control surfaces. This is an addition that is well worth considering. Study of photographs in many books devoted to the Phantom will quickly show that, when it is on the ground, leading edge slots, flaps, ailerons, rudder and dive brakes are displaced, and reproduction of these can add character to a static model. Decide just how far this is to be taken before commencing work then proceed carefully, using the sharpest possible blade and taking many gentle cuts rather than one or two enthusiastic ones. It is best to carry out this work when the wings are in two separate halves, making sure that each aileron and flap are cut-out together, in other words port top, port bottom, starboard top, starboard bottom; this simple procedure prevents parts becoming mixed up. Straight line cuts as needed for the flaps and leading edge slots present few difficulties, but the hinge insert on the leading edge of the rudder lines must be handled carefully or it can easily be removed.



F4B

Drawings by Bryan Philpott

1:72 scale



So far all the modifications and additions mentioned apply to all versions of the Phantom and in the following brief accounts of the models used to illustrate this article they will all be used where appropriate so will not be mentioned again in detail.

F4B of VF-51

This aircraft is one of the most colourful Phantoms to have so far been depicted on commercial decal sheets and certainly makes an attractive addition to any collection.

Apart from the changes already detailed this model has two additional pods fitted to the top of the fin. These are clearly shown on the drawings and were made by using a small bomb from the Airfix A7E Corsair which was let into the trailing edge, and a round section of stretched sprue let into the leading edge. Once these were firmly set careful attention from the point of a sharp modelling knife, a little bit of filler, and final

smoothing with sandpaper achieved the desired results.

The infra-red seeker, part 11, has to be reshaped as shown on the drawings and must have the additional pod fitted to it. At first glance this looks to be a difficult task, but it is in fact one of those jobs that is far easier than it appears.

The most difficult task on this model, and the two F4Js that follow, is the modification to the Airfix tailplanes to give the leading edge slots that are now fitted to Phantoms. Once again the ever faithful Hasegawa kit shows these very well and these components can be used on the Airfix model, if you so desire. But careful application of two strips of 10 thou plastic card to the leading edges of the tailplanes will produce the correct result. I tried a couple of trial runs first using thin paper to cut patterns of the correct length before committing plastic card. A line scored along the leading edge just behind the added strips represents the hinge

line and careful sanding does the rest. This work must be done if any of the three models on the Microscale sheet are being produced.

Various blade and whip aeriels must be added from scrap plastic and the two fin leading edge pressure heads replaced with wire.

The basic colour scheme of all three Navy Phantoms is the same, consisting of Gull Grey on all upper surfaces except rudder, ailerons and flaps, gloss white (which quickly goes matt) on all under surfaces and upper control surfaces, and dark grey for the fuselage walk-ways.

The area behind the jet outlets is burnt bare metal and I found that a good way to reproduce this was to paint the area matt black, leave it to dry, then carefully apply Zebrite oven cleaner with a cotton wool ear bud. Gentle polishing produces just the right amount of gloss whilst retaining a stained and burned look. The actual jet outlets can be given the same treatment but in my opin-

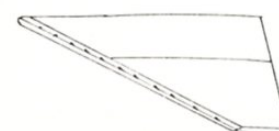
Cross section of fin intake

Add pods from scrap

Intake at base of fin

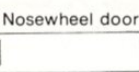
Leading edge slots: use Hasegawa part or modify Airfix parts with microstrip

Braking parachute housing



Inboard doors

Reshape undercarriage doors as shown



Nosewheel door

Main doors

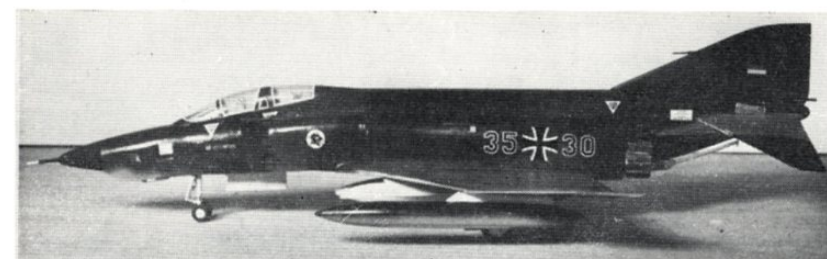
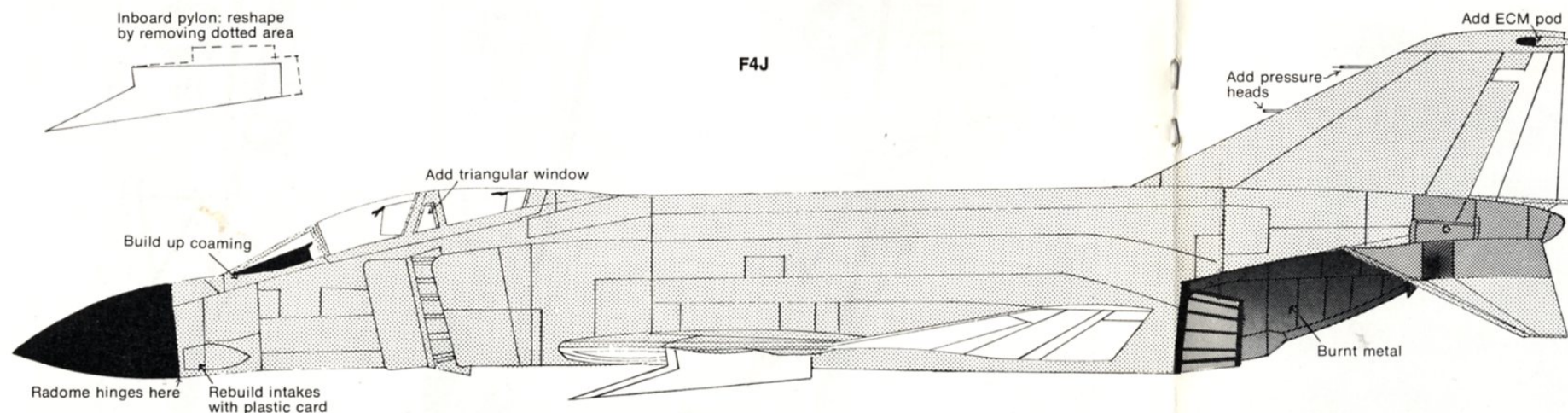


ion a mix of silver/matt black/rust produces a much better looking finish for these parts.

F4J of VF-114

This was the first of the Navy trio on which I

F4J



Luftwaffe RF4E using the Airframe nose and Modeldecal sheet 19.

experimented with displaced control surfaces and for this model I confined these to the wing flaps only.

Both this and the F4J of VF-96 have the pods added to the fin trailing edges and these, like the F4B, were made from A7E bombs.

This model has a completely new canopy moulded on a Mattel Vac-form using the Hasegawa canopy as the master. The end result is certainly an improvement on the over-thick three-piece Airfix offering but a lot of care must be taken in reshaping the fuselage to accommodate the new canopy.

F4J of VF-96

The experience gained on the other two Phantoms was all used on this one to produce a model that has the most additional detail of the three. All control surfaces were displaced and in addition to these the braking parachute housing at the tail was opened. This was done after the fuselage halves had been cemented together by cutting off the portion that opens with a razor saw, cleaning it up with sandpaper then fixing it in the open position.

The cockpits were fully detailed and to enable this work to be seen the canopies were left open. In this case the Airfix canopies were used but the windscreen was vac-formed. Araldite was used to fix the canopies in the open position and this was left as the final operation as I found that unless I wanted to sit holding the canopies in the correct position until they set, the model had to be balanced at the correct angle, with old father gravity pulling straight down the line of the canopy attachment points.

To add further interest the nose was blocked off with a disc of 20 thou plastic card and a radar scanner added to this. The radar equipment was based on photographs and was made from part of an engine of a Dornier 17, stretched sprue, microstrip and fuse wire. The scanner dish was a B29 blister window that I happened to have after a Stratocruiser conversion, but it is not suggested that a kit is bought to obtain this one part! A good look through the spares box is almost certain to reveal a suitable part, if not one can be scratch-built, or if you are a defeatist, the nose cone cemented in the closed position! The nose cone should be fitted in the open position after all the decals have been applied, otherwise it is difficult, if not impossible, to apply the rescue arrows, ejector seat markings etc to the starboard

side. A final touch was a bone-dome on top of the windscreen, this was made from a Rovex/Frog Harrier pilot simply by removing his head and drilling out the interior of the bone-dome.

RF4E of the Luftwaffe

Some years ago *Airfix Magazine* carried an article on the conversion of the F4B into an RF4B, which involved difficult carving of a new balsa nose and other modifications. Such is progress that since those days some small concerns have made it their business to supply conversion parts for these difficult but popular modifications. A recent release in this field was the Airframe RF4E nose, which can equally be applied to the other photographic reconnaissance versions.

The kit, which is available from Modeltoys of Portsmouth and Modelmark of Ilford, consists of a completely new injection-moulded nose plus full instruction on fitting.

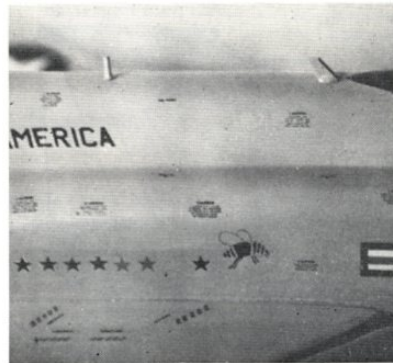
Very briefly, all that is needed is to cut off 7/16" from the Airfix kit nose and cement the new one in position. The under-surface has to be built up with a section of 30 thou plastic card and body putty and the missile troughs under the fuselage must also be filled in.

It was found best to seal off the rear of the new nose with a disc of plastic card before fitting it to the fuselage, as this stops fine dust from the sanding operation getting into the transparent position. If a different version than the RF4E is modelled make sure that the correct tail pipes are used as the RF4B and C were different to the E. Obviously other changes mentioned in connection with the Navy Phantoms can also be applied to the RF version but do not look for a Navy scheme for this aircraft as the USN now use the Vigilante in the reconnaissance role.

Modeldecal sheet 19 contains markings for the Luftwaffe machine illustrated as well as other hints on the conversion.

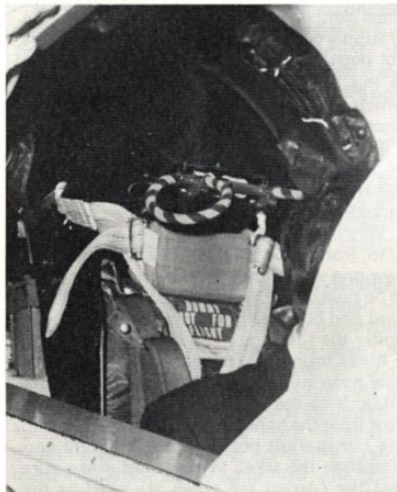
As three of the models described used Microscale decals it was decided to try the Microscale method of decal application and this was found to be all that the manufacturers claim for it.

When painting is completed mask the canopy with masking tape or Maskol then spray or paint the whole model with Micro Coat Gloss which is a decal primer. The decals are then applied by using the normal method of soaking them — very briefly — in water to which a fine drop of washing-up liquid, to relieve the surface tension, has



Left another view of the superb VF-96 F4J. Bone domes perched on the canopy add character. Above close-up of some of the 250 Microscale stencil markings on the same model.

been added. Application is helped by the use of Micro Set which is a solution that helps the decal to conform perfectly to every curvature of the surface. It is also useful if a



decal has to be moved once it has been placed, when a drop of Micro Set on a brush works wonders. But a word of warning, Micro Scale Decals are extremely fine and it is fairly easy to break them or have them double back on themselves. They are expensive so great care must be taken if best results are to be obtained, and unfortunately there are no duplications on sheets so there is no room for error or a spare part to practise with. Once all the decals have been applied and have dried — it is best to leave the model at least 12 hours — spray or paint a coat of Micro Coat Flat or Micro Coat Gloss, depending on the final finish needed. When this is dry the decals will really appear as part of the paint-work, there will be no film, and they will not peel off. The Micro Scale system is well established in the USA and is just coming in over here, it is available from Modelmark Hobby Products who can also

Left close-up of a Phantom simulator showing useful ejection seat detail (USAF). Below USAF RF4C showing much handy detail, including tail stencil markings.

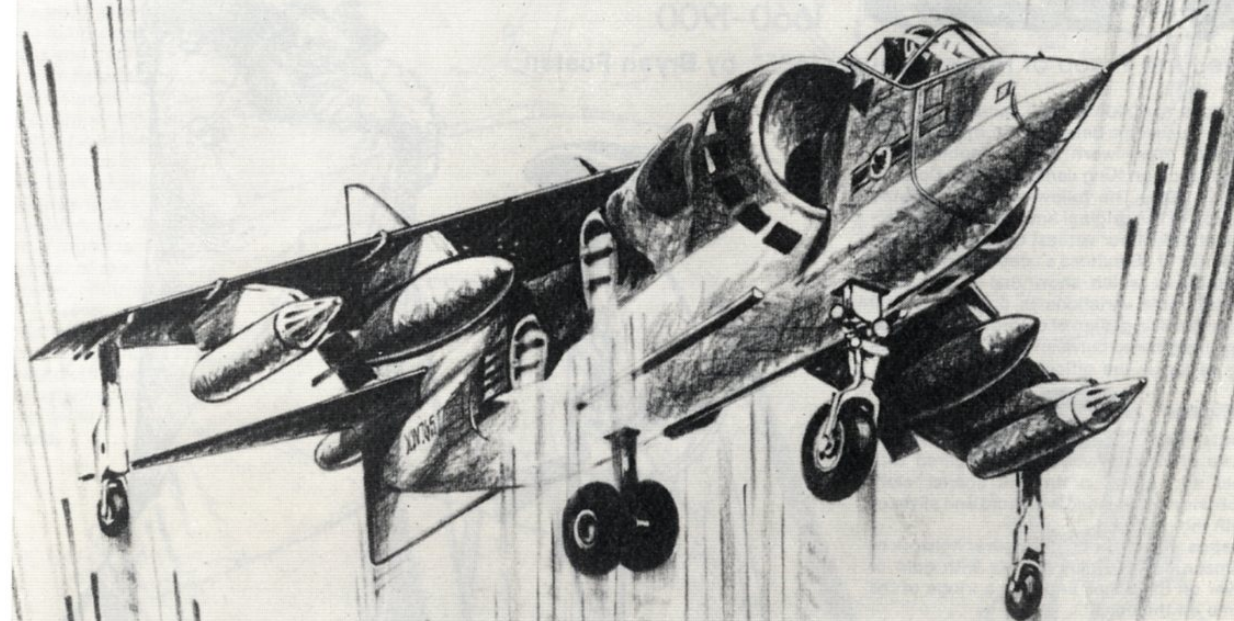


supply most of the Micro Scale sheets. In passing it is worth mentioning that on this company's sheets they always include a host of stencil markings and the Phantom of VF-96 shown in the accompanying photographs has over 250 such markings applied to it. This system of applying decals has many advantages and does not have to be confined to decals produced by that company bearing its name as it works equally well with all types of water-slide transfers.

No doubt the Phantom will continue to soldier on well into the 1980s and as long as it is in service modelmakers the world over will add various versions, colour schemes and modified models to their collections. It is hoped these few suggestions will have helped not only Phantom fanatics but all aircraft modellers who want to add a super detailed classic of the jet age to their collections.

To list all publications where details of the Phantom can be found would take far too much space, but the following will be of considerable help; Profile 208, *The F-4 Phantom* published by Almark, Aircams 30 and 41 and *F4 Phantom in Action*, a Squadron/Signal Publication. □

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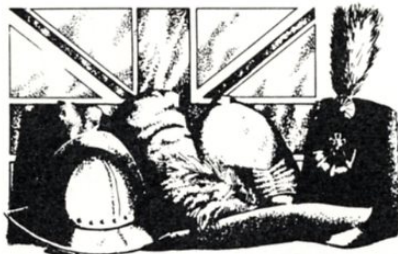
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british army uniforms 1660-1900

The First Troop of Horse Guards, 1685* by Bryan Fosten

FRANCES SANDFORD, the Lancaster Herald, has left us with a detailed description of the uniform dress worn by the regiments in attendance on King James II at his Coronation in 1685. The following is an updated version of the original and gives a clear picture of one of our earliest cavalry uniforms.

Many of Sandford's descriptions give alternatives which show that at this time considerable variations in dress were still apparent. The design of embroidery and lace very likely varied between each item of clothing as far as the officers were concerned.

Officers

Coats The officers were richly clothed in coats of crimson velvet, embroidered with gold and silver, or in fine scarlet cloth embroidered or laced with gold and silver or both intermixed.

Sashes Sashes of gold or silver network or crimson taffeta richly fringed with gold or silver on the edges and with a fringe of the same on the ends.

Cloaks Also of fine scarlet cloth embroidered on the collars and down the front with gold or silver or both intermixed.

Hats Black beaver hats were most common with officers of the day although Sandford does not mention them in this instance. He does state that their hats had curled feathers around the brim, which, presumably had gold or silver lace decoration.

Boots High, thigh length boots of heavy jacked leather with boxed spurs were normal footwear of the period for mounted troops. Sandford does not mention them.

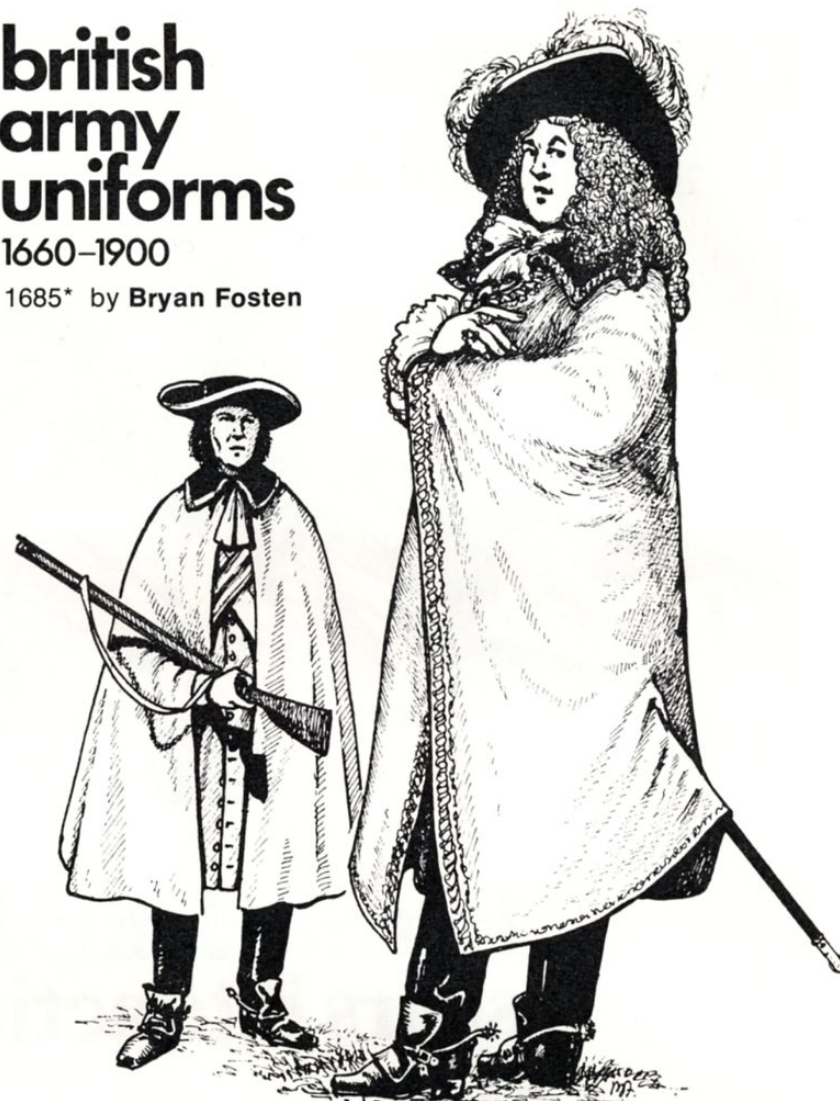
Housings and holster covers Crimson, richly embroidered with gold and silver and the manes, cruppers and tails were decorated with large knots of broad blue taffeta ribbons.

Troopers

Hats Black felt, turned up on one side and edged with broad silver lace, around the crown large knots of blue taffeta ribbon.

Coats The troopers numbered 200 and were known as 'gentlemen'. They were newly clothed in coats and cloaks of scarlet cloth lined with blue shalloon. The cuffs of the sleeves were of the same material and were laced with a figured galloon of silver edged with gold two inches broad. The buttons were silver plated.

*The First Troop of Horse Guards became the First Regiment of Life Guards in 1788. The Troops of Horse Guards which were part of the Life Guards have no connection with The Royal Horse Guards (The Blues).



Officer and trooper of the First Troop of Horse Guards. The officer is wearing the cloak of fine scarlet cloth with blue collar. The cloak would have been divided at the back to knee length for riding. Cloaks of this period were usually fastened with buttons but contemporary portraits rarely show this method of closure. The trooper's cloak would be of scarlet cloth with blue collar, laced round with gold and silver galloon.

Buff coats Each of the gentlemen troopers was issued with a buff coat and a large pair of gauntlet gloves of the same material. The buff coat was worn over the scarlet coat when necessary.

Housings and holster covers They were extremely well mounted and excellently equipped, having the housings and holster covers of scarlet cloth, embroidered with the King's Cypher (JR and crown) within a border of foliage.

Arms Each of the gentlemen was armed and accoutred with a good broadsword and large buff shoulder belt, a pair of pistols and a carbine belt of blue velvet, five inches broad, bordered with figured silver galloon

edged with gold two inches wide so that not more than an inch of blue velvet showed.

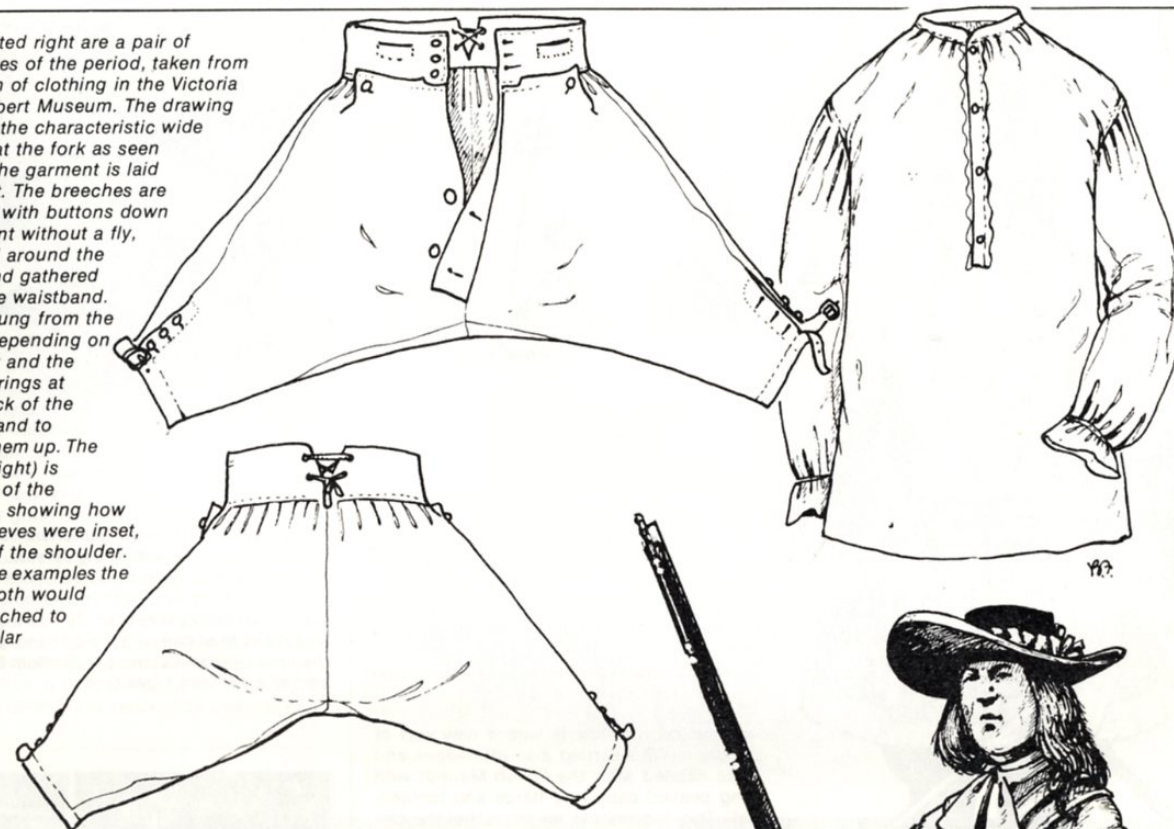
Boots High, thigh length, stiff leather boots with boxed spurs.

Attached to the troop were 60 Horse Grenadiers.

Officers

The officers were richly dressed and equipped in accord with the First Troop of Horse Guards, all being well mounted and accoutred. The Lieutenants led the Troop when dismounted and were armed with half pikes. The sergeants were armed with partisans and the corporals with halberds.

Illustrated right are a pair of breeches of the period, taken from an item of clothing in the Victoria and Albert Museum. The drawing shows the characteristic wide angle at the fork as seen when the garment is laid out flat. The breeches are closed with buttons down the front without a fly, are full around the seat and gathered into the waistband. They hung from the hips, depending on the cut and the drawstrings at the back of the waistband to keep them up. The shirt (right) is typical of the period, showing how the sleeves were inset, well off the shoulder. In some examples the neckcloth would be attached to the collar band.



Grenadiers

Coats The grenadiers' coats were of fine red cloth lined and faced with blue shalloon and buttoned with white metal buttons hatched with silver (Sandford has made the distinction of 'red' as opposed to the scarlet of the Horse Guards). On the fronts and cuffs, and in the pleats of the skirts, they wore large loops of fine blue worsted, edged and tufted with black and white.

Caps The crowns of their caps were raised to a high point, falling back at the top in the form of a capouch (a variant of capuche, a hood or cowl; the hood of a cloak, especially that of the Capuchin monks; 'a monk's cowl or hood'. Oxford Dictionary) which were turned up in front and behind with triangular flaps and faced with blue plush and on the back of the crown was a roundel or grenade ball also of the same colour. The italics are mine. Sandford's note is here difficult to decipher. Does he mean that on the back of the cap itself, not the flap, there is a circular patch of blue plush on which is appliquéd a grenade of the same colour? If this is so then the fold over of the crown part would obscure the design. He could mean that there was 'a roundel OR' (heraldic term for gold) with a blue plush grenade on it. I feel it could have been a blue grenade on a gold lace patch. I would also have thought that the King's Cypher and Crown should have been on the front flap but Sandford does not mention this, and one should always respect contemporary sources however bizarre.

Trooper of the Horse Guards without the buff coat.

Hats Sandford also mentions hats 'being black and laced round the brim with silver, buttoned up and adorned with blue taffeta ribbons'.

Boots Although of the same pattern as the Horse Guards, the grenadiers' boots would have been of softer leather for ease of movement when dismounted. Dragoons of the same period wore similar boots.

Cloaks Of fine cloth lined with blue. No colour is mentioned for this item of clothing but presumably red.

Housings and holster covers The housings and holster covers were of red cloth, scalloped on the edges, embroidered with the Royal Cypher and Crown bordered with foliage. Being annexed to the First Troop of Horse Guards this troop was in accordance with them in all their colours. The horseheads were also adorned with ribbons and knots of blue taffeta.

Arms Each of the grenadiers was armed and accoutred with a long carbine and sling, a good sword with buff waist belt, a pair of pistols, cartouche box, carbine bucket, bayonet and grenade pouch.

John Evelyn, the Diarist, writes on December 5, 1683, 'The King has now



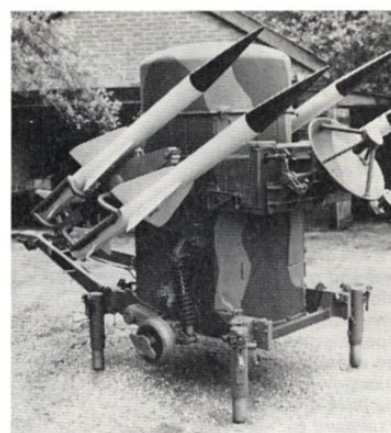
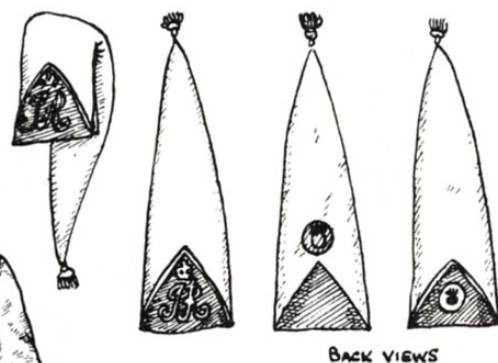
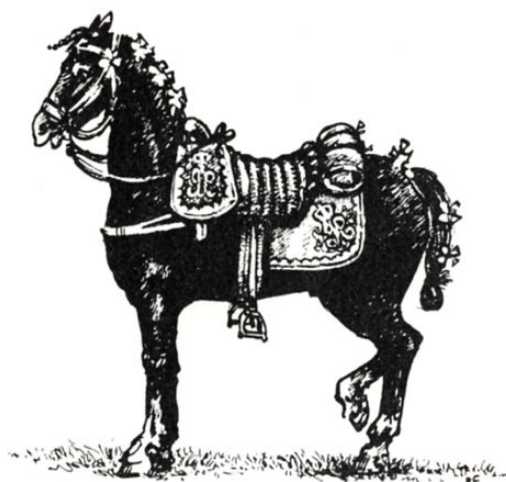


Horse grenadier with, inset, alternative decorations to the hat as described in the text.

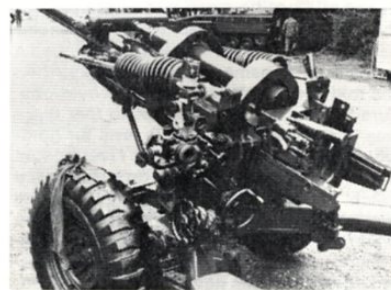
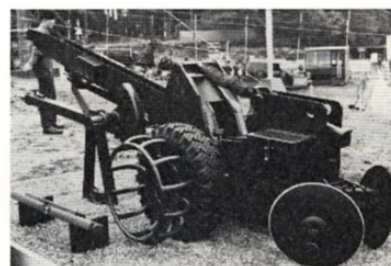
augmented his Guards with a new sort of Dragoon. Who carried also grenadoes and were habited after the Polish Manner with long peaked caps very fierce and fantastical. This suggests to my mind that the grenadiers would have worn moustaches. Costume at this time was in constant change and would not have provoked a fearsome appearance. Polish and Prussian troops of this period are often depicted with moustaches.

Other writers of the period comment that the grenadiers have the appearance of 'Turkish Janissaries'. Janissaries were wearing a cap of pointed shape that folded over at the back to almost waist length. □

The horse furniture of the Grenadier Troop. The housing is a horse cloth which differs from a shabraque in that it goes under the rear part of the saddle. When laid flat it is similar in appearance to a drum banner.



Above one of the new launchers for four Rapier missiles, now entering service. Below top mechanical Barmine Layer. This device is towed behind an FV 432 and automatically lays mines and covers them far more quickly and safely than can be done by hand. Centre the little Enfield electric car. Bottom breech end of a 105 mm Light Gun.



AIRFIX magazine



Aldershot Army display

EVERY YEAR DURING June the Army puts on a Display of its activities at Rushmoor Arena, Aldershot. This year's show was as complete as ever with bands, marching displays and all the magnificent spectacle that the Army can provide but we concentrated on the displays of vehicles and weapons. Just about every vehicle the Army uses was on show along with their equipment. Visitors who looked hard, and had the time and stamina, found a great deal of interest this year. On show for the first time was the Chieftain ARV. The actual vehicle was the prototype R1 from Borden where it is still being used for various trials.

Another vehicle new to the Aldershot display was the Vixen. This vehicle is intended for use in reconnaissance units and is a simplified Fox with a small turret housing a 7.62mm GPMG. It is destined to enter service

Right the Chieftain ARV.

in the field

Terry Gander and Chris Foss

in 1976-1977 and in time it will replace the Ferret. One of the Ferrets on show had seen service with the United Nations Forces in Cyprus and the Congo.



The Royal Corps of Transport had the widest range of vehicles to show and the scope of their activities is quite staggering. Many new types of construction vehicle were to be seen, but many of them are commercial models painted olive green. The specialist vehicle such as the Eager Beaver was much in evidence.

Two most unusual vehicles were on show in the RCT park. One was the little Enfield electric car. Built in the Isle of Wight, this vehicle is on trials with 41 Squadron RCT to see if the electric car has any place in the fuel-conscious army of the future. The other oddity was a Volkswagen Snowcat. This light tracked vehicle is odd mainly because it carried a Royal Navy registration (01RN74) but the Army normally uses Volvo snow vehicles

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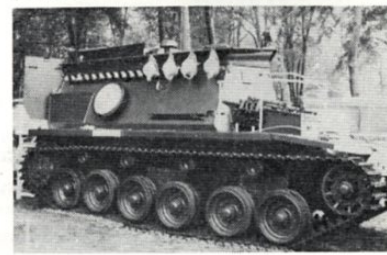
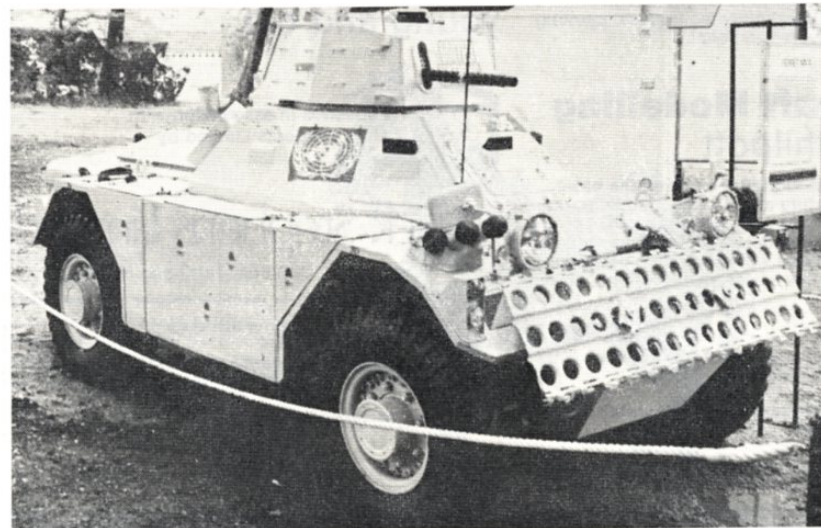
for Arctic work. Some of these were on show, one with a trailer carrying a 120mm recoil-less gun. In the section devoted to the Territorials it was interesting to note that they still use the older version of this gun in the shape of the Mobat. This gun is heavier than the latest version, the Wombat, and it uses a modified Bren Gun as a sighting weapon.

The Royal Artillery showed off the Rapier guided missile and their range of artillery. Still on show was the Honest John missile, but this is now due to be replaced by the Lance, another ballistic missile but one with a variety of warheads including a nuclear

load.

The Aldershot Show is one of the best opportunities that the general public has to see exactly what their taxes are spent on, but one thing really stands out from all others. All the gleaming and specialised equipment on show has to be used, maintained, and serviced by a soldier who has to be a very different man from the old square-bashing swaddy of the past. Today's soldier has to be a high-class technician with a mind of his own, and it is evident that if the Aldershot Show is anything to go by, the modern Army has the right type of man to do its job. □

Top left Volkswagen Snowcat powered by a VW 1500 cc engine. **Top right** Vixen reconnaissance vehicle. **Above left** Volvo Over-snow vehicle towing a trailered 120 mm Wombat. **Above right** an SAS Land Rover. **Below left** a United Nations Ferret. **Below** workhorse of the army, the Bedford 4-ton 4x4. **Bottom** one of the last four Centurion BARVs in service.



AIRFIX magazine

squadron codes and colours 1939-1956



By Michael J. F. Bowyer and John D. R. Rawlings



Above Stirling 1 HA:D-N3725 was delivered to 218 Squadron on March 15 1942 and crashed on the night of September 14/15 1942 (IWM). **Below** lovely rare shot of two Lysanders of 239 Squadron airborne in January 1941. HB:X-L4798 is nearest and the other machine is HB:T-P1674 used by the squadron between September 1940 and April 1941 (via John Robertson).

HA 218 Squadron (c)
Letters used from September 1939 until disbandment August 8 1945 successively on Battles, eg HA:J-K9353, Blenheim IV HA:J-R3666 (used September-November 1940), Wellington 1Cs, eg HA:J-R1339 (used February-June 1941), HA:J-R1025 which crashed on the night of October 14/15 1941 near Eastbourne, Stirling 1 HA:J-W7614 (missing December 17/18 1942), Stirling III

HA:J-EF449 (used June 1943 - January 1944) and Lancaster 1/III HA:J-PD256.

HB 239 Squadron (c)
Letters used from formation September 18 1940 at Hatfield until disbandment on July 1 1945 apart from a period in 1943 when no codes were worn. Successively used on Lysanders, eg HB:T-P1674, HB:X-L4798, Tomahawk HB:Z-AH793, Hurricanes, eg IIC HB:X-BN966 and Mustang 1 HB:V-AG356. Unit codes given up about March 1943. Squadron role changed in the autumn of 1943 when the squadron changed from an army co-operation unit to a night-fighter squadron in 100 Group. Initially trained on Beaufighters and Oxfords at Ayr, unit codes for the period unknown. In 100 Group used Mosquito IIs, eg DZ661, Mk IIs, eg PZ246 and Mk XXIs, eg HB:S-NT362.

HC 512 Squadron (c)
Formed August 1943 with Dakotas and based at Hendon. Became part of 46 Group for airborne operations over Europe. Example HC:T-KG330 in use at Broadwell in April 1944. Squadron re-numbered 241 in August 1945.

HC 241 Squadron (c)
No 241 Squadron was disbanded in August 1945 and at the same time 512 Squadron was re-numbered 241. The new 241 Squadron took over the Dakotas of 512 Squadron and retained the HC coding as on HC:F-KG560.

HD 38 Squadron (c, UK, ME)
Squadron adopted this coding in September 1939 on its Wellingtons, eg Mk 1A HD:H-N2908, Mk 1C HD:H-R3213 (in use August 1940). Proceeded to the Middle East in November 1940 retaining its HD coding. Transferred to 201 Naval Co-operation





Left Hurricane IIC HB-K-BN373 of 239 Squadron. Hurricanes arrived on the squadron in January 1942, when six Mk 1s and two Mk IICs came into use. They were on squadron strength for about three months. In this interesting shot the machine carries long-range tanks and normal fighter camouflage (via John Robertson).

Right Tomahawks took the place of Lysanders in 239 Squadron. AH793 seen here coded HB-Z joined the squadron on July 16 1941 and was one of two Tomahawks (the other was AH802) which made the squadron's first operational sorties on September 19 1941 (via John Robertson).



Group early 1942 and may then have given up its codes which were certainly relinquished sometime in 1942.

HD 466 Squadron (c)
Formed October 15 1942 with Wellington IIIs, eg X3461, and Mk Xs, eg HD:T-HE410. Used Halifax IIs briefly, eg HD:J-DT559, and from November 1943 Halifax IIIs, eg HD:Q-MZ287 in use April-August 1944. Disbanded 1945 after switching to a transport role. When this happened it was in the throes of converting to Liberators, none of which wore HD coding.

HE 263 Squadron (c)
Reformed October 20 1939 and disbanded August 28 1945. Wore HE on Gladiators, eg Mk 1 HE:H-K7942 and II HE:K-N5633. Gladiators famous for their exploits in Norway. Reformed with Hurricanes at Drem, eg HE:V-N2349, and in July 1940 began to equip with Whirlwinds, eg HE:H-P6968. By perseverance the squadron made the Whirlwind a successful ground support and fighter-bomber aircraft. In December 1943 it re-equipped with Typhoons, eg HE:Y-MN407. Disbanded August 28 1945 and reformed at Sacklington in September 1945 and equipped with Meteor IIIs, eg HE:A-EE285. Received Meteor IVs in 1948, eg HE:H-EE460. Mk 8s were received mid-1950 at which time the squadron adopted colours for identity.

HF 183 Squadron (c)
Formed November 1 1942 and received a few Hurricanes coded HF. These were soon replaced by Typhoons, eg HF:L-R8884, HF:K-RB222. In July 1945 began to equip with Tempest IIs, the first squadron to do so. Examples included HF:W-MW755 and MW772. Re-numbered 54 Squadron at Chil-

bolton November 15 1945 and aircraft passed to new squadron.

HF 54 Squadron (c)
Reformed from 183 Squadron November 15 1945 and settled at Odiham in October 1946 at which time its Tempest IIs, eg HF:X-MW774, were replaced by Vampire 1s, eg HF:T-TG298. Vampire 3s came into use in 1948 carrying only an individual letter and a small edition of the squadron's newly adopted colours.

HG 332 Squadron (c)
Formed at Catterick January 16 1942, 332 carried the HG coding for only a few weeks on its Spitfire VAs. AH replaced the original coding. HG is known to have been carried on Spitfires at a much later date. The following were recorded at Hendon: HG:U-MD185 and HG:X-MD168. Both at the time belonged to 154 Squadron (see entry under 'HT').

HH 175 Squadron (c)
Formed at Warmwell March 3 1942 with Hurricane IIB fighter-bombers, eg HH:T-BE482. Typhoons came into use in April 1943, eg HH:R-JR501. The unit disbanded September 29 1945.

HH 273 Squadron (c)
This unusual squadron formed August 1 1939 with Vildebeestes and a few Seals in Ceylon. Early wartime codes unknown but either still HH (the pre-war coding) or possibly VY. Received some Fulmars in June 1940, the only RAF squadron to operate this type, half of its personnel being RN. Later in the war coded MS.

HI 66 Squadron (c)
The letter 'I', like 'C', came into use in 1943, but HI was never apparently carried until after the war, although an HI Beaufighter II

has been reported. When 165 Squadron was re-numbered 66 Squadron on September 1 1946 at Duxford the letters HI were soon introduced on Meteor IIIs, eg HI:A-EE270 (used March - May 1948) and later Mk IVs also wore HI, eg HI:H-EE574, these being introduced in May 1948. The letters were changed to LZ, 66's wartime coding, when the squadron moved to Linton-on-Ouse in October 1949.

HJ Allocation unknown
The letters HJ are believed to have been carried by Vildebeestes of 100 Squadron in the Far East between September 1939 and January 1942. Confirmation would be welcomed.

The letters HJ:A are reported to have been carried by Wellington XIV NB999, an aircraft that served only with 612 Squadron whose codes are reliably known to have been WL and later 8W. Reports have from time to time linked the letters HJ with 407 Squadron which possibly used them late in the war. Readers' comments are invited.

HK Fighter Leader School (c)
Opened at 52 OTU Chedworth January 15 1943 as the School of Tactics. Moved to Charny Down February 9 1943, to Aston Down August 16 1943, to Milfield January 26 1944 and there absorbed the Specialised Low Attack School. FLS moved to Wittering December 27 1944 and was absorbed by the Central Fighter Establishment at Tangmere about March 1945. Examples of aircraft used: Spitfire VB HK:Q-AR399, Mk IX HK:J-BS227 and Hurricanes, eg, HK:G-AG111. Also used the codes OQ and MF, eg MF:15-JR259 in use December 1944.

Continued on page 44

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HK 282 Squadron (?)

These letters are said to have been worn by the Warwicks of this squadron, eg HK:E-BV356. Confirmation is awaited.

HL 31st Fighter Group, USAAC (c)

Letters allocated to 308 Squadron USAAC and used on its Spitfire VBs from June 1942 to October 1942, eg HL:AA-JK226.

HL 78th Fighter Group, USAAF (c)

Letters worn by the 83rd Fighter Squadron. They were at once applied to the P-47s of the squadron when it equipped at Duxford and may have been worn earlier on P-38s at Goxhill. Later worn by P-51s until about August 1945.

HL Station Flight, Gransden Lodge (c)

Allocation confirmed, use not known.

HM 136 Squadron (UK/FE/c)

Squadron formed at Kirtlington-Lindsay August 20 1941 and equipped with Hurricanes. Moved to India November 1941 and equipped with Hurricane IIAs, IIBs and IICs. Received Spitfire VBs in December 1943 and Mk VIIIs in 1944, eg HM:B-MT567. Received Mk XIVs in November 1945, eg HM:B-RN193. Re-numbered 152 Squadron on May 12 1946.

HM 1677 TT Flight (c)

Formed with three Martinets at Netheravon March 1 1944. Moved to Rivenhall October 12 1944, to Wethersfield December 28 1944, Gosfield January 14 1945, Shepherds Grove January 28 1945, Matching April 18 1945, had six Martinets added April 19 1945, moved to Wethersfield October 19 1945 and disbanded January 25 1946. Examples of aircraft used: HP368 (in October 1944), HP369 (April 1945 to January 1946) and HP326 (May 1945 - January 1946).

HN 93 Squadron (c)

On December 7 1940 No 420 Flight, which had been experimenting with aerial mine laying, was renamed 93 Squadron. It received Havocs and a few Wellington 1Cs giving up the latter and its remaining Harrows in April 1941. It continued using Havocs, eg HN:L-AX916, for aerial mining and experimented with Turbinlites before disbanding into 1458 Flight on November 24 1941. It was reformed as a Spitfire squadron on June 1 1942, again coded HN, and proceeded to North Africa in October 1942 using Spitfire VBs, eg HN:B-BM514, and VCs, eg HN:V-BR487. Mk IXs were acquired, eg HN:H-MA636, and used between July 1943 and disbandment on September 5 1945. On January 1 1946 the squadron was reformed from 237 Squadron and briefly used Mustang IVs, the code letters of which are not known.

Top to bottom Whirlwind HE:H-P6984 of 263 Squadron. It was with the squadron from December 22 1940 until written off following a crash on January 29 1941 (IWM). Hurricane HK:G-AG111 of the Fighter Leader School at Charny Down (IWM). Two very rare shots of Audaxes of 20 Squadron photographed in India. The squadron badge appears on the fin, and finish may have been Dark green-Dark earth-Sky (or silver?). The top machine is K5573 which looks as though it is either HN:F or HN:P, the lower one is HN:E-K4859 (B. T. Gibbins).

HN 20 Squadron (FE/c)

Between September 1939 and disbandment in June 1946 No 20 Squadron carried the letters HN for most of the time. The letters were successively worn by Audaxes, eg HN:E-K4859, Lysanders, eg HN:X-N1251, Hurricane IIB/IICs, eg BN135, Mk IIDs, eg HN:H-KX229, Hurricane IVs, Spitfire VIIIs, Spitfire XIVs, eg H:NH869, and Tempest IIs, eg HN:L-PR551.

HN 446 Bomb Group, USAAF (c)

Letters carried by B-24s of 705th Bomb Squadron between March 1944 and June 1945.

HO 143 Squadron (c)

Reformed June 15 1941 and equipped with Beaufighter 1Cs coded HO, eg T3350, T4761. Re-equipped with Blenheim IVs in December 1941 coded HO, eg HO:B-N3603 and HO:J-V5735. Re-equipped with Beaufighter IIs in September 1942, eg HO:V-V8159. Mk XIcs came into use February 1943, eg HO:X-JL890, and later in 1943 the Mk X was received, eg B:JM281 and Y:JM279. Recoded NE in 1944.

HO Allocation unknown

The letters HO were certainly carried by Hurricanes. HO:B was noted on June 26 1942 and HO:R and HO:S on February 28 1942. Unit unknown.

HP Gunnery Research Unit (c)

Formed at Exeter June 3 1940 from 'A' Flight, Armament Testing Squadron, A&AEE and received Wallace K6055 and Demon K3764. Did gunnery and gunsight trials using a wide assortment of aircraft, eg Hurricane L1695, Henley L3247, Spitfire R6718, Monospar L4672, Defiant N1674, Wellington L4285, Defiant N3311, Blenheim L1290, Gloster F9 L7999, etc. Moved to Collyweston (part of Wittering) on April 14 1944. Disbanded March 12 1945. Examples of aircraft used at Wittering: Battle HP:J-L5776, Wellington X HP:O-LN151, Defiants DR870 and N1549:HP-M.

HP 247 Squadron (c)

Reformed August 1 1940 at Roborough and equipped with Gladiator IIs, eg N5649. Received Hurricane 1s in December 1940, eg HP:K-W9124. Later used Mk IIAs, eg HP:R-Z2682, and IIBs, eg HP:E-Z3662. Recoded ZY in 1942 presumably to prevent confusion with the GRU aircraft.

HP 389th Bomb Group USAAF (c)

Letters carried by B-24s of the 567th Bomb Squadron March 1944 to June 1945. This coding compromised that of the GRU.

HQ 56 OTU (c)

Letters carried by 'X' Squadron of the OTU, certainly in 1944 and 1945. Used on Typhoons, eg HQ:P-JP746, and Tempest Vs, eg HQ:M-EJ804. Unit disbanded February 14 1946.

HR Allocation unconfirmed

Letters certainly carried by Wellington 1C HR:O-R1660, and aircraft that served first with 304 Squadron and then 15 OTU. Wellington Z8708 was coded HR:G. It appears most likely that these letters were worn by 304 Squadron which is usually reckoned to have been coded, NZ, although no photographs of such a coding have evidently been obtained. □



8th army in the desert

Simple figure conversions by John Sandars

THE AIRFIX SET of OO/HO figures make a good basis for small scale 8th Army units (see *Airfix Magazine*, September 1973), and the wide variety of poses and equipment included make them suitable both for war-game and display purposes.

In addition to painting, there are several minor improvements and alterations that can be made without much modelling skill or time being needed. In this article we will look

at models for members of lorried infantry companies.

Despite the variety provided by the Airfix set, there is some extra equipment needed. An infantry platoon in the Desert in 1942 would have had an officer armed with a pistol, a sergeant with a rifle, three Bren gunners, and probably three Tommy gunners, in addition to about two dozen riflemen. All these are included in the set, but the 2" mor-

Right unaltered and unpainted Airfix OO/HO 8th Army figures. **Below** conversions depicting (l-r) Rifle Brigade, Highland regiment, Guards officer, New Zealand and English county regiment company commanders. An unaltered figure is in the foreground. **Bottom** sergeants at each end, sergeant majors in the centre.





Three stretcher bearers on the left have their weapons cut away and stretchers added from plastic rod wrapped in tissue paper. Note the Red Cross insignia on their helmets. The two wireless operators on the right have simply had their packs trimmed and painted, with bristle 'aerials' added.

tar, and the Boys anti-tank rifle which would have formed part of the platoon HQ are not, and when you move up to company HQ level you will probably want a slightly less active looking model for the company commander, a suitably distinctive one for his sergeant-major, one carrying a portable No 18 wireless set, and at least one stretcher bearer; none of which are included. Furthermore, you may wish to make several of each of these figures in different poses, either to give realistic variety to a battle scene or to enable you to differentiate between units in a war-game army. The first photo shows some of the models that can be used in their original state, and the other plates show some of the results.

The alterations made are all very simple. The officers have in most cases only had their heads changed with those from models in other Airfix sets. In one case (centre figure) the complete officer figure from the Second World War British infantry set has been used with his trousers painted to resemble khaki drill slacks, and in a couple of others weapons have been cut away and paper maps added. The senior NCOs have also had head changes and rifles or tommy guns, cut from other models, have been stuck on in the slung position; armbands or wrist straps with rank insignia have been painted on to those in their shirtsleeves. The sergeant-major figure in the centre of the

third photo was made up from the lower half of a commando, the upper half of a 25 pdr gunner, with rammer converted into pace stick, and the head of a First World War infantryman.

For wireless operators all that is necessary is to slice off the rear of the pack and paint on dials etc (blobs of white on a black background), stick a paint brush bristle aerial alongside it, and draw in earphones and cable in black indian ink. The stretcher bearers have had their weapons cut away and stretchers from thin plastic rod rolled up in tissue added in their place.

Boys rifles and 2" mortars need only pins, plastic rod and thin cardboard to make, as shown in Fig 1.

As well as adding these extra items you may also want to improve some of the rather rudimentary weapons that are already in the set. The Brens can be much enhanced by the addition of a proper curved magazine of card, and thin wire bipod legs, while a variety of Bren gunners can be made in different poses from the single prone one provided by cutting away parts of rifles and adding magazines and bipods. The tommy guns also look better with a drum or stick magazine added underneath between the two hands, and even the ordinary rifleman will look more aggressive with a paint brush bristle bayonet 'fixed'. (I mean a house painting brush bristle, not a modeller's one).

All these changes can be made by cutting the soft plastic with a sharp knife, scalpel or razor blade, and gluing the new parts in place with Uhu or some similar glue. Heads should be pinned as well for strength, and all figures should be washed in detergent before gluing and coated all over with a skin of Unibond or similar sealant afterwards. This is most important as it holds the whole thing together. Although the end product will not survive really rough handling they are surprisingly strong, even for wargame purposes.

In addition to using figures in different poses you may want to differentiate between those in the same position. This can be done in several quite simple ways. Small bits of muslin can be glued to helmet tops to resemble scrim nets, as on the right-hand figure in one of the photos, or roll-ups can be cut away from the sleeves so that the top half of the body can be painted in dark khaki or brown to make either a battledress blouse coming down to the waist, or a pullover extending half way down the shorts. In the latter case sleeves can be either rolled up or down, as on the left hand three figures in another photo. Finally, a further distinction can be made by painting the anklets dark khaki with a thin horizontal band of khaki drill around each, to form the short puttees that were often worn at that time.

For painting in general, a quick way of producing a reasonable result for mass produced models is to paint the basic colours on with Humbrol or Airfix colours, and then line in around equipment, garment edges etc, with diluted brown indian ink applied with a mapping pen. Eyes, mouth etc are also easily applied by pen.

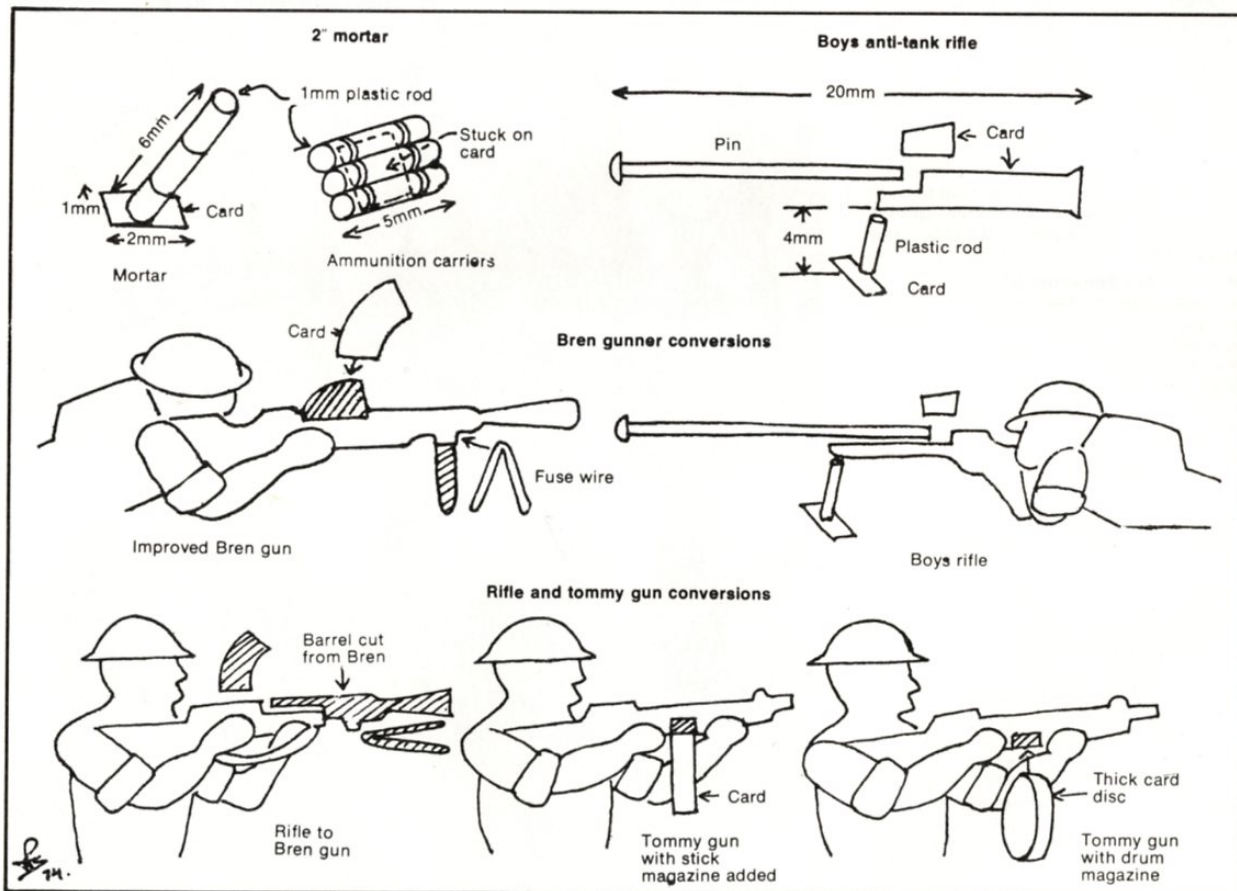
If you do not want to make up a full strength infantry company, you can produce



one at one third strength as follows: HQ — 1 Officer, 1 CSM, 1 wireless operator, 1 stretcher bearer, 1 Boys A/T rifle, 12" mortar; plus three platoons each of — 1 Officer or sergeant, 1 corporal tommy gunner, 1 Bren gunner and 5 riflemen.

This includes all the weapons in the right proportions for wargame purposes, and the fact that the A/T rifle and mortar have to be at Company HQ instead of being in the platoons does not introduce a serious inaccuracy, as the platoon heavy weapons were sometimes grouped in this way under the CSM in a sort of support battery.

Above Boys rifles and 2" mortars made as shown in drawings. The left-hand lying figure has been converted from a Bren gunner, Below two tommy gunners and three Bren gunners. Bottom riflemen. Note added bayonets and Bren gun magazine held by prone figure.



NEW kits and models

Revell Hurricane

UNTIL THE appearance of Airfix's 1:24 scale offering, Revell's 1:32 scale kit was easily the best Hurricane available and the 'unarmed' PR Mk 1 box looked interesting. Well moulded, with very little flash, the parts went together very well, the cockpit slid easily and fitted properly, the wheels revolved — and the wings fitted as they should! The only real problem was the fact that the kit aircraft was fully armed! This caused hurried research to try and find details of a Hurricane Mk 1 with tropical filter and this proved a real stumbling block until it was discovered that 151 Wing used similar aircraft in Russia, albeit with later type spinners! Hence the scheme used is different from that recommended by Revell for a 208 (AC) Squadron aircraft which can be made up from the kit providing the gun ports and cartridge ejectors are carefully blocked up. For £1.25 this kit is very good value and it does make the range of 1:32 scale kits now available fairly comprehensive.

Frog Hunter

ALMOST TWENTY YEARS ago Frog released a kit of the Hunter F1 which at that time had just entered service with the Royal Air Force. This aesthetically pleasing aeroplane, which has given legion service to the RAF and many foreign air arms, has in these past two decades been sadly neglected by the plastic kit manufacturers of the world. Apart from an F6 version by Airfix, which is now beginning to show its age, only Central of Japan have attempted to produce a 1:72 scale kit of this masterpiece from Hurricane designer Sir Sydney Camm. The Central attempt was a complete disaster and turned out to be more like a promotional give-away kit than a seri-

ous effort to immortalise this fine aeroplane. But the balance has now been redressed with the release of Frog's version of the FGA 9. Basically this aircraft is a reworked Mk 6 with the addition of a braking parachute, tropicalisation and additional wing fittings for weapons and fuel tanks.

The model is accurate in outline, but suffers slightly from over-thick trailing edges to the wings and tailplanes, a minor point that is easily corrected. A very nice touch is the provision of blanking pieces for the forward and rear fuselage intakes and outlets, thus preventing daylight showing right through the fuselage and taking away the tedious job of preventing this with plastic card.

The gun troughs and barrels are poorly reproduced and very little, apart from major surgery, can be done to improve these. But they can be sanded down and the troughs carefully enlarged which will certainly improve this part of the kit. Underwing tanks and Matra rocket pods are provided and the accurate canopy does give the model an authentic air. Unfortunately the ejector seat is very poorly reproduced as is the rather 'underfed' pilot figure.

Transfers are superb and give markings for a 54 Squadron RAF machine at West Raynham in 1968 and a F58 of 1 Squadron, Swiss Air Force. These include stencil and trestle markings and could only be improved by the addition of an instrument panel.

At 50p this is a most welcome addition to the ranks of 1:72 scale jet fighters and is sure to prove popular among serious collectors as well as the schoolboy element.

Matchbox MiG 21

THE NOMENCLATURE used to define various versions of the MiG 21 can become a little

confusing, so it is no surprise that Matchbox have chosen to avoid the pitfalls that await the unwary, and simply call their model a MiG 21. In actual fact it is a late series Fish-bed D or MiG 21 PFM, which is the broad chord fin/rudder all-weather version.

In outline the kit is basically accurate and, unlike some recent Matchbox releases, does not suffer from the 1914-18 trench-style engraving, being very delicately marked — albeit slightly inaccurately if contemporary references are accurate. However, these mistakes can be rectified with the help of *Profile 238* and a scriber or pointed modelling knife.

The fin/rudder is a little thick at the trailing edge and needs thinning down, while both tailplane and wing joints need some filling to obtain smooth joins. Mainwheels and main-wheel doors are a little undersize, the latter also being inaccurately curved, while the three small ailerons on top of the fin are inaccurately placed and should be removed, to be replaced by stretched sprue ailerons lined up so that the forward one is level with the rudder hinge line.

The ejector seat is sheer poetry on behalf of the Matchbox designer who would have us believe that the Russian aircraft industry provide pilots with an armchair that would not be out of place in the latest G-Plan range! It is best to completely rework this component or discard it in favour of something a little less romantic.

The only other serious error is that both the box art and instruction sheet show the pilot head to be fixed to the underside of the nose whereas it should, of course, be above. Decals are a little crude by modern standards and the Czech national insignia for the wings are incorrect — there should be two with the red and white transposed as on the box artwork.

Italaerei: Marder III

THIS IS THE second AFV offering to come from the Italian firm of Italaerei. The first was the inspired choice of the Hetzer and this second choice will be every bit as popular as that excellent kit. The Hetzer set a very high standard for a 1:35 scale kit and the Marder III is every bit as good, if not better.

It is a replica of one of the later Marder IIIs mounting the 7.5 cm Pak 40, and using the Pz 38(t) chassis. Detailing is very good, going right down to bulkhead wiring and junction boxes while the gun is excellent. What could have been a rather difficult assembly job on the suspension has been made quite straightforward by the use of heat welded washers to accurately reproduce the exact action of the sprung suspension. It is typical of the attention to detail shown by the designers that there are eight extra washers supplied in the kit to replace any that go missing or get damaged in the heating process.

A full load of external tools and spare track lengths are included, and the track itself deserves special mention as it is detailed on both sides and is very well produced. Two figures are provided but many will not want to use them as they are not up to the standard of the rest of the kit in detailing or over-

Continued on page 50

MODELITONS

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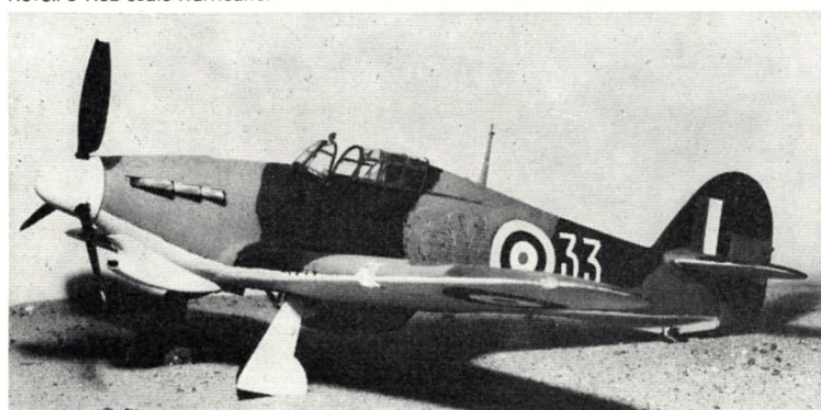
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all realism and look as though they need a good haircut anyway.

The transfers supplied are adequate and give the choice of several unit markings. Overall we have nothing but praise for this production both in its choice of subject and in its well-detailed production. The kit, which is not motorised, is distributed by Riko and costs a very reasonable £1.50.

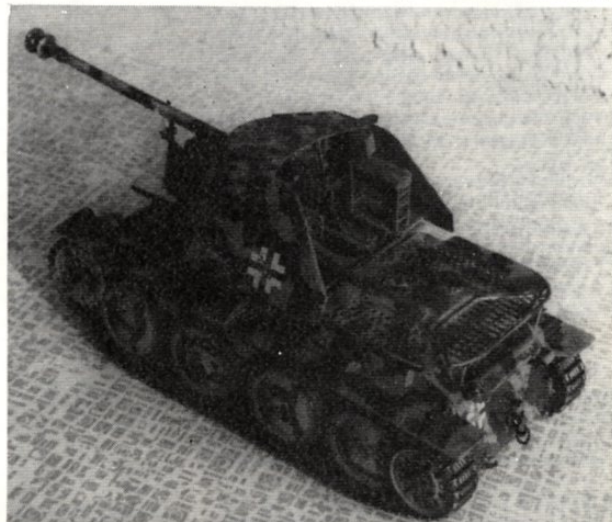
Hasegawa SdKfz 7

IT IS PERHAPS unfortunate for UK modellers that the Hasegawa range are to a scale of 1:72 as the models look a trifle oversize, as indeed they are, when put among a collection of 1:76 scale AFVs. The Hasegawa range is expanding rapidly and the general standard of accuracy and moulding of their kits has so far been very good. Our review kit of the 8 ton SdKfz 7 half-track was made up by one of our younger modeller readers who had no difficulty in following the excellent instruction sheet, but then these are of a standard normally associated with Hasegawa kits.

Fit of parts was in all cases excellent, and



Above a new release from Corgi is this Chieftain with 'firing' gun which retails at £1.50 and is ideal for the younger wargamer. Right the Italaerei Marder. Below Hasegawa Panther G. Foot of page Hasegawa Tiger 1 and SdKfz 7.

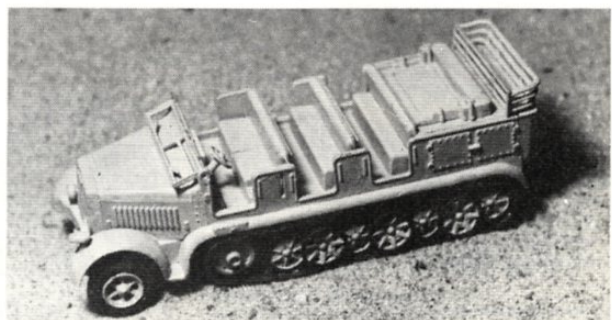
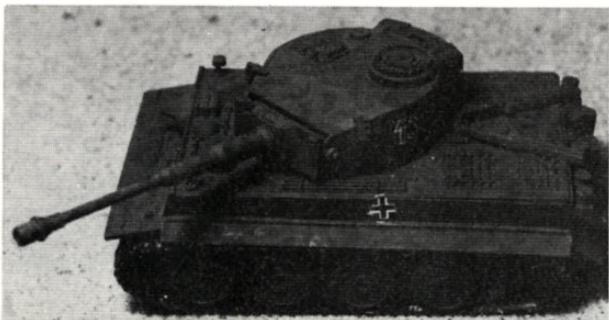


although there was perhaps an absence of definite location points for some of the parts this was never any serious problem. Some of the detailing may be regarded as a little on the heavy side. The photograph depicts the model as built straight from the kit with no modifications whatsoever. There is an alternate open hood which could be fitted in place of the folded hood as shown in the photograph. A crew of some seven figures, not shown on the photograph, is also included in the kit. Our sample was supplied by Ren-models of 63 Fitzroy Street, Cambridge CB1 1HF, and costs 40p.

Hasegawa Panther G

MUCH THE SAME remarks apply to the Panther

G kit as to the SdKfz 7. Most of the parts fitted well, and as will be seen from the photograph of the finished model, most of the detail is nicely done although the number of wheel rim studs is incorrect for a Panther G, the turret rear should have slightly more taper, and the four rectangular engine deck grilles are also incorrect. A neat touch was the stub of plastic which holds the top run of the track down onto the first road wheel behind the sprocket to give the characteristic sag. Painted matt black on the model, this is not visible. Two crew figures and skirt armour, not shown on the photograph, are also included in the kit parts. Our sample again came from Ren-models of Cambridge, and costs 40p.



Hasegawa Tiger I

THIS KIT OF THE Tiger I by Hasegawa makes up into a very neat and reasonably accurate replica. The main feature that spoils the model is the outer set of road wheels as they should have quite a lot more 'dish' than moulded on the kit parts. As will be seen from the photograph these are far too flat. At least the kit is noteworthy in providing a full set of battle tracks and road wheels. Once again, Ren-models can supply this kit for 40p.

Fujimi Valentine

AT LAST THE plastic kit industry has come up with a Valentine tank kit, a subject that has been neglected for far too long.

Fujimi kits have become very popular for their interesting choice of prototypes, neat moulding and general high standard, and our review sample from Ren-models was mostly up to the usual standard, with crisp well detailed parts although there was some flash evident on some of these.

Unfortunately the main hull top of the review kit was badly distorted with a distinct curve up at front and rear along the turret ring position. This did not help assembly which was accomplished by the liberal use of Sellotape and elastic bands to hold all in place. Assembly would have been far simpler if there had been fewer parts to the top, there being six separate pieces from front to rear.

One of the suspension arms locating D hole was incorrect and had to be completely drilled out to enable the arm to fit at all. A return roller mounting had either been snapped off in transit or had not been moulded in the first place. Road wheel centre holes were off-centre on about half of the wheels. Mostly minor criticisms so far but the major disappointment is the turret which is far too small. The overall diameter of the basic circular turret is the full width of the hull, therefore it should be wider, longer and set nearer the front of the hull. The only remedy is to scratch-build a new turret using the kit mantlet assembly.

We are sure this kit will be welcome as the hull was used for so many specialist AFV types during the Second World War, it is just a shame that it is rather below standard in some areas. Price is 60p, and our review sample of this kit too came from Ren-models of Cambridge.

Jap carrier

THE LATEST TO reach us from the new range of 1:700 scale warships by Tamiya is the Imperial Japanese Navy's carrier *Junyo*.

Measuring just over 12 inches when completed, the *Junyo* maintains the remarkable standard set by these kits which are proving popular to all cross-sections of the modelling fraternity.

Detailing is to an extremely high standard with the engraving on the flight deck being so delicately executed that great care must be exercised when painting if some of it is not to be lost.

The deck lifts can be shown raised or lowered and the 16 tiny Zeros that are included in the kit can occupy these or be ranged on the flight deck.

The lifeboats, complete with detailed seats, armament, aegials and other gear, give the constructor plenty to occupy his time and this is not a kit that can be assembled (correctly) in a few odd moments.

If Tamiya continue to produce this type of kit with ever-increasing standards, the day they get around to the British and German fleets will be well worth waiting for.

Fit of parts and the absence of any flash make assembly a joy, and the waterline configuration makes the provision of a seascape base well within the reach of the beginner. Painting of the aircraft calls for a steady hand, especially when it comes to markings, but the use of a magnifying glass helps and also shows the detail that has even been included on these 1:700 scale masterpieces.



Seastrike

THIS IS A new wargame with a difference from the Wargames Research Group, and is especially topical in the light of recent developments in Cyprus. The game is played by two sides, each representing part of the defence forces of a medium-sized and technically advanced country.

Play begins by the players setting up an area of 'sea' on a table, and dotting this around with 'islands' (irregular-shaped pieces of green and brown card included in the game kit). Each then secretly chooses his forces according to his budget and objectives (given in a set of cards) and draws a sketch map of his dispositions. The forces include various types of ship from patrol boats and submarines to cruisers, missile sites, helicopters and strike aircraft, each of which have different offensive capabilities so that forces can be carefully tailored to the situation.

Play then commences with pieces being moved using a movement marker and weapons in range being fired, damage being assessed through a system of 'Chance cards' which relate weapon to target.

There are a large number of variables to consider at each stage of a move in this game, calling for very careful tactical thought within each player's broad objectives, and the game rapidly becomes completely absorbing. A further attractive feature is that the card counters representing ships etc can easily be replaced by suitable small-scale models, while properly contoured islands could also be made from Plasticine or Plaster of Paris.

The game can be made as simple as the players wish, with just half a dozen ships and a couple of islands, or as complex as imaginable. There is also a table of hull and weapons values at the end of the rule book allowing the more inventive to design and launch ships to their own specifications!

All in all Seastrike represents excellent value for money, and something completely different which will appeal to all wargamers even if they normally fight land battles and different periods. Price is £4.50 including postage and VAT from the Wargames Research Group, 75 Ardingly Drive, Goring-by-Sea, Sussex.

1:300 terrain

THE LATEST SETS of vacuum-formed scenic accessories from Micro-Mold are three packs containing buildings and terrain for use with 1:300 scale tanks.

MD1 is a buildings and accessories set, containing a selection of typical European buildings, both intact and ruined; pill boxes, gun emplacements, 'dragon's teeth', anti-tank

ditch and a very attractive length of stream with a bridge and water mill.

MD2 is a complete miniature diorama called Long Stop Hill which depicts a section of Tunisian terrain with trenches and gun positions, while MD3 is called Crossing the Meuse and is another complete diorama including a river with bridge, a long ridge and a couple of houses.

All three packs are moulded in sandy-brown coloured plastic and each includes a sheet of notes by Terry Wise giving historical data and suggestions for wargaming use. Packed in transparent vac-formed packs, the sets retail for 66p each from Micro-Mold, 1-2 Unifax, Woods Way, Goring-by-Sea, Sussex BN12 4QY.

Of the three, MD1 is by far the best value and the most versatile since you get about 20 individual items for your money, which can be re-arranged time and time again to give an endless variety of wargame scenarios.

Seelowe

COULD A GERMAN invasion of Britain have worked in 1940? This is really one of history's unanswerables, although a recent 'proper' wargame between British and German military officers reported in one of the Sunday papers suggests that the answer is no, mainly as a result of the Battle of Britain. However, if you take a hypothetical situation where the Germans won the Battle of Britain, as the designers of this Simulations Publications game have done, circumstances alter to such an extent that the success or otherwise of an invasion becomes a very close issue.

This new game, which comes attractively packed in a vacuum-formed plastic container with separate compartments for each different type of playing counter (a great help in setting up the game), permits wargamers to test out their own ideas and see whether they can succeed with — or defeat — an invasion. The map board shows most of south and south-east England (it's a funny feeling, defending the coastline round Southend or Brighton!), divided into the usual hexagonal grid pattern with towns, railways, hills, woods and other terrain features printed in two colours. Playing counters include all the standard infantry and armoured units etc, air units, German paratroops and British partisans. There is a choice of three scenarios in the playing rules using different orders of battle, and play continues for 15 moves at which time victory or defeat are measured according to the conditions in the rules.

An interesting game with a great imaginative appeal for most British wargamers, and good value at £3.99 from Simulations Publi-

cations UK, PO Box 46, Altrincham, Cheshire WA15 6PE. And incidentally, if you are a board wargamer, it is well worth taking out a subscription to *Strategy & Tactics* magazine (same address, £6 a year) because not only do you then get the magazines and the games each includes, but being a subscriber entitles you to ten per cent off the price of SPI games like Seelowe.

Essential reading

War Games through the Ages Vol 2, by Donald F. Featherstone. Stanley Paul, 3 Fitzroy Square, London W1P 6JD. **Price £2.95.**

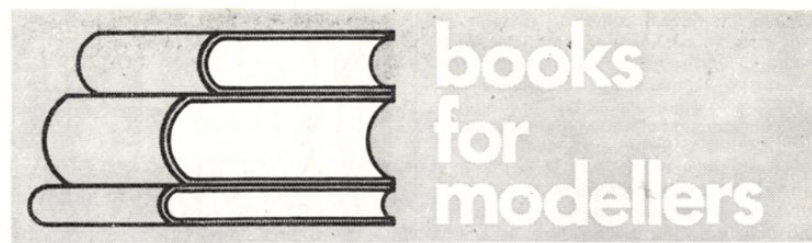
THIS LATEST VOLUME from Don Featherstone describes the armies, weapons, tactics and leaders of European and American armies in the early part of the 'horse and musket' era, from 1420 to 1783, providing a good primer to this remarkably neglected period.

Beginning with the immediate post-medieval period, he describes the Hussite Wars and Wars of the Roses which saw the first significant usage of gunpowder weapons; then progresses to the increasingly popular 'pike and shot' period, describing the Italian and French Religious Wars, the Dutch revolt in the Netherlands, 30 Years and English Civil Wars, the Dutch Wars and the War of the Grand Alliance. The third section of the book describes 18th Century warfare, from the War of the Spanish Succession and the Great Northern War through the War of the Austrian Succession and the Jacobite Rebellion to the Seven Years War and American Revolution.

The book begins with some introductory chapters outlining the main points of this period and explaining the systems used later to award points values to armies and commanders. Each of the subsequent chapters on a particular war is then followed by a table listing characteristics such as discipline, training, morale, tactics, weapons handling etc, each of which is allocated a points value. This enables wargamers to build up balanced forces for a game: for example, if one army's total value is 16 and its adversary's 32, then the player commanding the first army should be allowed twice as many troops for parity. This system only works, of course, if the tactics and related factors employed by individual armies are rigorously adhered to in the wargame.

Finally, there are useful appendices listing model figure manufacturers and books and magazines for further reference.

The main drawback of this book is its brevity — for example, six pages are devoted to Gustavus Adolphus and the Great Northern War, only 12 to the English Civil War, and so on. This means that, however succinct and to the point the author's style, the book cannot rank as more than a very basic primer. However, the diagrams illustrating typical tactical formations and methods of deployment are useful, and the playing rules outlined in the text will enable anyone of average intelligence to at least begin wargaming in this period. With over 200 pages plus 12 pages of photos the book is also very good value for money in the light of current publishing costs.



Aviation

Ruston Aircraft Production, by John Walls. Available from Miss J. M. Draper, 141 Hawton Road, Newark, Notts. **Price 50p including postage.**

DON'T LET THE title put you off, this is not a booklet of production tables and graphs but a very nice illustrated history of the part played by the Ruston Proctor Company of Lincoln during their days as 'aircraft producers'. From small beginnings Rustons became the largest producer in the country of aircraft engines and among the top five British aircraft producers during the Great War. Types built included the BE2c, d and e, Sopwith 1½ Strutter, Sopwith Camel and Sopwith Snipe. Over 2,000 aircraft and 3,000 engines were produced with many spares as well as other 'hardware' including 8000 Lewis guns. The many photographs in this booklet include some of the 1,000th aircraft built at Rustons which, by 'special permission' was decorated in a fantastic colour scheme. Details of this are given, which should provide a challenge to any aircraft modeller. Other booklets have already been published on the traction engines and cars produced by Rustons and others are in preparation in this series on Lincoln's Aircraft Production as both Clayton and Shuttleworth and Robeys played their parts during 1914 to 1918.

A Source Book of Rockets, Spacecraft and Spacemen, by Tim Furniss. Ward Lock Ltd, 116 Baker Street, London W1. **Price 95p.**

AT FIRST SIGHT this small book would seem to be directed towards the 'Star Trek' audience of the younger reader, but it is more than that. It is, as its title states, a source book of mankind's achievements in Space, starting with the V-2 and moving up to Spacelab. It is really up to date as it ends off with the crew of Spacelab 4, but how long it will remain topical remains to be seen — a fate suffered by all books of this nature. Nearly every page deals with just one topic which means that some pages show a lot of blank space and others cannot start to do full justice to their subject. At 95p the price is very reasonable and it will be a popular choice during the present-buying season but it will mean that future editions will be needed to keep it fully up to date.

Pictorial History of the French Air Force, by Andre Van Haute. Ian Allan Ltd, Terminal House, Shepperton, Middx. **Price £4.95.**

FOLLOWING THE SUCCESS of their series on the RAF, Fleet Air Arm, USAF and the Mediterranean Air War, Ian Allan have now made a start on the French Air Force.

The first volume, which covers from 1909 to 1940, is of much larger format than others in the series mentioned earlier. It also adopts a different layout wherein the text and pictures are run together instead of having one section devoted to text and the rest to the photographic content.

The book serves to remind us of the French dominance of early aviation and some of the photographs covering this period are absolute gems, the atmosphere of the string and wire days almost coming out of the pages to hit you, while at times the smell of Castrol can almost be detected.

Naturally French aces, and other pilots, of the First World War feature prominently and again the author must be congratulated on his research and choice of pictures. Eight colour paintings by Arthur Sturgess add a touch of quality to the book and for the enthusiast the detail shots of aircraft interiors, plus the comprehensive tables in the appendices, will be of considerable interest.

The only real criticism is the asking price which is £4.95. It is appreciated that in these days of rising prices the cost of paper, production etc has affected publishers as much as anybody else, but nearly £5.00 is still a lot of money and one cannot help but feel that the reader will have to be really dedicated to the fortunes of the French Air Force to buy this nice but expensive book.

Schweinfurt: disaster in the skies, by John Sweetman. Pan/Ballantine Illustrated History of WWII, Pan Books Ltd, 33 Tothill Street, London SW1. **Price 50p.**

ANY BOOK IN which errors can be detected almost at will without detailed study must be extremely suspect, at least as far as the enthusiast is concerned. Such a book is the Pan/Ballantine *Schweinfurt*. Apart from the irritating habit of referring to all versions of the Messerschmitt Bf 109 as the ME 109, and B17Es, Fs and Gs as Flying Fortresses, the book also introduces us to the Focke-Wulf FW109 and captions a prototype Griffon-powered Mk XII Spitfire as a Mk IX. When the infamous propaganda picture of a row of He113 is captioned as aircraft that proved a constant threat to the allies, the value of this book shrinks to its true perspective.

No doubt the publisher and author were aiming at the mass market where attention to technical details is perhaps not of major importance, but as a serious work this book can be dismissed and the 50p it costs put towards a more authentic account of the USAAF's war effort.

Pan/Ballantine Illustrated History of World War II, **P-51 Bomber Escort**, by William Hess. Pan Books Ltd, 33 Tothill Street, London

SW1. **Price 50p.**

THE STORY of the Mustang by William Hess concentrates, as might be expected from an ex-aerial gunner in a B-17, on the American usage of the Mustang. It is very definitely a book seen through American eyes as very little credit is given to the part played by Rolls-Royce in turning the original Allison-engined Mustang into a worthwhile aircraft. It has very little technical information for the modeller, and although the book does contain many photographs of planes in action these unfortunately have not reproduced very well, at least in the review copy. The book in fact deals very poorly with the development and mainly consists of combat reports and quotations from pilots of the time.

Aircam Aviation Series No 42, **Messerschmitt Bf 109 Luftwaffe Experten**. Osprey Publishing Ltd, PO Box 25, 707 Oxford Road, Reading, Berks. **Price £1.50.**

TO THE USUAL Aircam formula, this is the third in the series to deal with the 109 and contains the usual selection of coloured side views by Richard L. Ward. These, together with the photographs and other drawings, deal with the markings applied to aircraft of the 'aces'. Some of the photographs are interesting but unfortunately others have not reproduced too well.

Aircam Aviation Series No 43, **Messerschmitt Bf 109B, C, D, E, F, G in Luftwaffe and Finnish service**. Osprey Publishing Ltd, PO Box 25, 707 Oxford Road, Reading, Berks. **Price £1.50.**

EITHER THE COLOUR reproduction has gone seriously awry, or Richard Ward's imagination would appear to be more fertile than accurate — however, disregarding the colour schemes this, the last (possibly?) in the series on the 109 does at least contain some interesting photographs.

Flight before flying, by David W. Wragg. Osprey Publishing Ltd, PO Box 25, 707 Oxford Road, Reading, Berks. **Price £3.25.**

THIS BEAUTIFULLY produced 191-page book is a feast of aviation fun and nostalgia. Those who still think that aviation began with the Wright Brothers should take a good look at this vast assortment of pioneering and not-so-practical aerial machines, comprehensively and humorously documented from Mr Icarus to the Wright Bros (who end the book!) with the aid of over 150 contemporary illustrations.

The early years from 1783 to 1903 have, until now, been virtually ignored by publishers and so Osprey and the author are to be congratulated on filling, so attractively, this historical gap.

Many of the eccentric designs illustrated would make splendid scratch-built models — and a refreshing change from the usual run of Second World War subjects. The steam-powered Eole (the first powered heavier-than-air machine to take off under its own power without external assistance) would challenge the most enthusiastic scratch-builder. The illustrations have been chosen so well, all details can be seen very clearly.

This book is easily the best aviation book produced by Osprey to date, the reproduction and quality of paper being in a different class to previous efforts. *Flight before flying* would make a handsome Christmas gift, but most purchasers will probably want to retain another copy for themselves! A book more for the coffee table or best book-case rather than the modelling table, beneath the sprue!

Military

Tank Battles of World War 1, by Bryan Cooper. Ian Allan Ltd, Terminal House, Shepperton, Middx. **Price £2.50.**

AFTER A BRIEF chapter on the birth of the tank, this little book by Bryan Cooper goes on to document, the use, or should we say misuse, of the tank during the 1914-1918 war. From the early disastrous use by the generals of the day, the tank eventually, as all students of military history will know, proved itself indispensable in battle.

The book is well illustrated with Imperial War Museum photographs of British, French and German tanks and one or two armoured cars, very clear maps of the major battles in which the tank was first used and an appendix of diagrams showing the differences between the early Mark Is, Mark IVs etc.

Pan/Ballantine Illustrated History of World War II, **The Raiders — Desert Strike Force**, by Arthur Swinson. Pan Books Ltd, 33 Tothill Street, London SW1. **Price 50p.**

THE LONG RANGE Desert Groups and the Special Air Service units, in spite of initial official

AIRFIX MAGAZINE ANNUAL FOR MODELLERS 4 edited by Bruce Quarrie

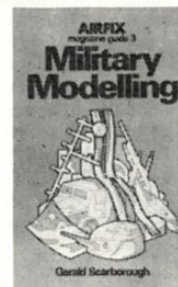
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AIRFIX MAGAZINE GUIDE 3: MILITARY MODELLING by Gerald Scarborough

The main emphasis is on World War II in this book covering the building of model tanks, armoured cars and trucks of all sorts.

AIRFIX MAGAZINE GUIDE 4: NAPOLEONIC WARGAMING by Bruce Quarrie

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opposition to the very existence of so-called 'private armies', played a very important part in the battles in North Africa. Their colourful and very exciting story is told by Arthur Swinson and is well illustrated with pictures of the vehicles and equipment used and some of the results of their handiwork.

Bellona Military Prints Series 37. Semovente DA 75/18 SU Scafo M40, M41, M42 — 1941/3; Semovente DA 75/34 SU Scafo M42 — 1943; Sturmgeschuetz M42 Mit 75/18 (850) (i) — 1943/44; and Sturmgeschuetz M42 mit 75/34 (851) (i) — 1943/44, by Dott. Nicola Pignato. MAP Ltd, 13-35 Bridge Street, Hemel Hempstead, Herts. **Price 30p.**

THIS LATEST addition to the series covers four types on the same basic M40/M41/M42 chassis with the usual 1:76 and 1:48 scale drawings and photographs of the various models described, some of which are unfortunately not too clear but which nevertheless will be of interest to the military vehicle enthusiast and historian. Although there is as yet no 1:76 scale kit on the market either of the M13/40 which could serve as a basis for conversions, or of any of the M40/41/42 range, there should by now be available the Italaerei kit of the M40 75/18, one of the subjects covered.

Artillery of the World, by Christopher F. Foss. Ian Allan Ltd, Terminal House, Shepperton, Middx. **Price £2.95.**

CHRIS FOSS HAS followed up the success of his *Armoured Fighting Vehicles of the World* with an equivalent work on artillery. As this new book is the first of its kind to be available to the general public it deserves a deeper look than most book reviews, and a close study is most rewarding.

The general layout of the book follows that of the AFV book and the coverage is wide and varied. Each gun gets at least one picture and a data listing. Some guns do not get a picture, eg many of the Chinese weapons get only a mention, but every item covered gets a brief comment and a list of the countries using it.

Despite the cover picture only towed guns are covered, along with mortars, but mention is made in a list form of most of the main self-propelled guns in service today. Also tagged on the end is a listing of the main types of artillery tractor in use round the world.

As well as the guns themselves there is also a section on the fire control and data systems used by modern gunners, and a most welcome coverage of the main types of artillery rockets in use.

The coverage of the book is very comprehensive. One thing that is very noticeable is the large number of Second World War guns that remain in use. Apart from the familiar 25 pdr and 5.5" field pieces, mention is made of numerous German guns such as the 5cm Pak 38 that remain in use, and even the British 3.7" AA gun is mentioned as being in service in Burma, Egypt, India and Malaysia (the Pak 38 soldiers on in Spain and Yugoslavia).

A good coverage is given to the modern Oerlikon range and the Hispano-Suiza and Swedish guns get a prominent mention. The

future can be seen in the shape of the American Vulcan System and the odd XM-204 105 mm Howitzer, but over the page and one is back to the old 81 mm mortar M-1!

Other items of interest are the Second World War Japanese pieces still in use, the rebored 15cm sFH 18 to produce the Czech 152 mm M18/46, the Russian SD-44 auxiliary propelled gun, and the Yugoslav 105mm M-1956 light field howitzer. But these are only a few items amongst very many and the book contains much that will be new to even the most avid artillery buff.

We have no hesitation in recommending this book to all with an interest in modern weapons, and a compliment is also due to the staff at Ian Allan who did such a good production job. All we need now is an equivalent and readily available work on small arms.

Janes Pocket Book 4, **Modern Tanks and Armoured Fighting Vehicles**, by Christopher F. Foss. Macdonald and Janes, St Giles House, 49/50 Poland Street, London W1A 2LG. **Price £1.75.**

FOR SOME TIME there has been a need for a small and handy reference book of modern AFVs and this little book is exactly right to suit that requirement. Chris Foss is no stranger to regular readers of this magazine and he is well suited to be the author of this work. His wide knowledge of contemporary AFVs has been compressed into 203 pages of brief notes and illustrations of just about every model and type of AFV likely to be encountered anywhere. Included are tanks, armoured cars, APCs, self-propelled guns, bridgelayers and ARVs. Each vehicle is illustrated by one photograph, and most get a brief data list, a few comments and a listing of the countries with which it serves. Most of the pictures are good and clear but a few have been 'clipped', and the data is precise and to the point. The coverage of vehicles is very comprehensive and few are omitted. One tank that is missing is the elderly T34/85 which is still in widespread use as recent events in the Middle East and Cyprus have reminded us, but this is a minor quibble in view of the wide variety covered. This little book will soon be on the bookshelves of many armour fans and we suspect it will appear in the pockets of many serving soldiers. This well-produced little book is heartily recommended.

Naval

Warship Profile No 34, USS Barb (SS220). Profile Publications Ltd, Coburg House, Sheet Street, Windsor, Berks. **Price 70p.**

THE RECENT RELEASE and re-release of several submarine kits could herald a new era in warship modelling, and this Profile goes some way to providing the material needed by the enthusiast who seeks 100 per cent accuracy.

Giving a breakdown of the submarine in the US Navy including a section on between-the-wars-development, and a description of the various classes, the author, Commander Bill Cracknell USN, goes on to detail the *Barb* and its history. This makes fascinating reading as each patrol is dealt with in some detail.

The *Barb* was a Gatow class submarine — of the same type as the *Growler* recently released by Revell — and the large open-out type colour centre-spread provides a wealth of useful detail for the modeller. Also listed are all the *Barb's* Commanding Officers and there is a comprehensive listing of all the Gatow class submarines and their fates. The clear photographs and concise text make this another 'must' for the warship enthusiast.

Narvik: Battles in the Fjords, by Capt Peter Dickens DSO, MBE, DSC, RN. Ian Allan Ltd, Terminal House, Shepperton, Middx. **Price £12.75.**

THIS IS THE ninth in the 'Sea Battles in Close-up' series produced by this publisher, and it tells in great and lucid detail the story of what is for many one of the lesser-known battles of the Second World War. After reading this book no-one should feel there is anything left to discover about the Narvik naval battles, but in the word 'naval' is perhaps the book's biggest weakness. Narvik was only part of the whole unfortunate 1940 Norwegian campaign and this book makes hardly any mention of the overall picture into which the battle must be set, and no mention is made at all of the Army or Air Force contributions to the campaign.

Having said that and accepted that the narrative mentions only the naval side of things it must be said that the book is excellent. The story flows very well and does not get bogged down into a welter of detail that so many books of the type are liable to do, but still the details are there for those who want it. Much new material is incorporated, not least of which is the account of the German torpedo failures. Had it but known it, the Royal Navy led a charmed life in its dashing exploits up the fjords, for reading this account one is left with the impression that numerous torpedos were fired at the British ships but many simply went astray or did not detonate. In fact, it would not be surprising to learn that the Narvik battles were probably the most wasteful in the use of torpedos ever, for surprisingly few of the RN torpedos seem to have found their appointed targets either. All these details and many others are included in a series of appendices at the end of the book.

The maps and illustrations are good and leave nothing to be desired. The overall impression is of a real set-piece fight in which both sides came off with credit. Perhaps some enterprising wargamer could turn this excellent book into a future project, but apart from that it is well recommended to all with an interest in naval history.

Railways

Swindon Steam 1921-1951, by Kenneth J. Cook. Ian Allan Ltd, Terminal House, Shepperton, Middx. **Price £2.50.**

ALTHOUGH SEVERAL books on Great Western locomotives have already been published, this one on the work 'back stage' reveals a number of interesting facts not generally known.

The author, who spent over 30 years at Swindon, starting as an apprentice in 1912 and becoming CME of Western Region in

1950, can claim to know his subject.

During his time he had first-hand experience of the construction and maintenance of the engines of Churchward, Collett and Hawksworth, and contributed to the unique continuity of Swindon steam.

The attention to detail in construction and testing as shown in this book, again indicates the efficiency of Great Western locomotives. Mr Cook also gives the human touch by relating various incidents involving the staff, not without some humour.

Swindon Steam is well illustrated with drawings and photographs and the technicalities are in a language everyone can understand. GWR enthusiasts should certainly include this on their bookshelf and the others will find plenty to interest them. Great Western influence can be seen in the locos of other companies and British Rail.

An appreciation of the stresses and strains involved should help young modellers maintain their own locomotives even if they are on a much reduced scale and powered by electric motor instead of steam.

Firing Days, by Harold Gasson. Oxford Publishing Co, 5 Lewis Close, Risinghurst, Headington, Oxford. **Price £1.90.**

THIS IS THE author's reminiscences as a Great Western Railway fireman. He has very effectively captured the atmosphere surrounding steam locomotive crews.

Starting as a junior cleaner in 1940, his experiences en route to fully fledged fireman and occasional driver have produced a book that will appeal to all steam enthusiasts. The reader is made aware that the long hours and arduous work did not damp the enthusiasm or impair the pride of craft that permeated the Great Western — something that seems to have been destroyed by modern techniques.

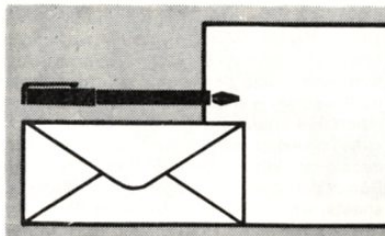
The thrills and some spills are described in a manner that put one on the footplate with Mr Gasson — to share the exhilaration — the satisfaction — that the steam loco was able to give its crew.

To the younger generation who have grown up with 'diesels', this book should prove quite fascinating — a way of life that produced some real characters. The model railwayist will also find much to help in the authentic running of the miniature line. *Firing Days* deserves a place on the bookshelf of all Great Western fans, it will be re-read on numerous occasions.

IPMS Magazine

THE FIRST OF the new bi-monthly IPMS Magazines for the UK Branch has now been released. As agreed at the Society's AGM, the magazine is A4 format and is an entirely different style to the monthly one it replaces. Although the first issue only has 16 pages, the Society will gradually extend this to at least 24, as support from contributors and advertisers increases. The new magazine is far more attractively designed and laid out than in the past, and a sample copy and full details of IPMS membership can be obtained by sending a postal order/cheque (*no stamps*) to: Mr John Salmon, 35 Clares Green Road, Spencers Wood, Reading, Berks.

September 1974



letters to the editor

Contributions

Letters to the editor selected for publication entitle the senders to each receive a free Airfix plastic construction kit, and the publication of photographs from readers is similarly rewarded. Airfix Products Ltd award the kits on the following scale:

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Letters to the editor should be addressed to: the Editor, *Airfix Magazine*, Bar Hill, Cambridge, CB3 8EL. If a reply is wanted, a stamped addressed envelope (or International Reply Coupon) should be enclosed. All photographs submitted for consideration should be clearly labelled with the sender's name and address on the back of each.

Please note that while every effort is made to answer simple queries, *Airfix Magazine* is not a reference library, and complicated research cannot be undertaken for readers.

Opinions expressed by correspondents on this page are their own and do not necessarily reflect the views of the Editor or Airfix Products Ltd.

Gladiator notes

ON DISCOVERING the codes of a 94 Squadron Gladiator in *Airfix Magazine* I recalled seeing a 94 Squadron 'Glad' shoot down a SM81 over Aden at night. The bomber was held in the searchlights and the Glad that was on standing patrol roared across the sky at full boost with his navigation lights on, forgetting to switch them off he went into the attack thus giving a grand display along with the tracer of both aircraft. The SM81 went down in flames in the shark-infested Red Sea and much to our amazement the pilot, a senior Italian Air Force officer, walked out of the sea and said in perfect English as he handed over his pistol, 'I am the captain, have you seen the rest of my crew?'. They all survived.

As a matter of interest to modellers, the Gladiators of 94 Squadron and short-nosed Blenheims of 8 Squadron used a rust coloured paste on all exhaust parts to cut down glow at night. I find the Airfix Brick paint does the trick.

Incidentally, all RAFMT drivers were issued with peaked caps, the only people likely to drive wearing a 'Glengarry' hat would be odd bods with a local camp licence.

As a matter of interest Vickers Vincents of

8 Squadron carried out extensive night operations on aerodromes in Abyssinia, Maccaca, Diridowa, etc, as well as using Blenheim Is.

A squadron of Wellesleys from the Middle East along with a squadron of Bristol Bombers were sent on detachment to Aden to bomb Addis Ababa (out of 8 Squadron range) with great success.

A Walrus from an Australian cruiser dive bombed Italian Naval HQ with two First World War 112 lb bombs, shot up everything in sight and returned unscathed.

John Simmonds, Slough, Bucks.

BMSS

THE BRITISH Model Soldier Society are opening a new Group in Kent. Readers who are interested and who live in the area should contact the area representative, Mr C. Ward, 27 Sandown Road, West Malling, Kent who will be pleased to furnish you with details of future activities.

It should be noted, in fact, that the BMSS has groups throughout the country and anyone who feels that he would like to meet members of the foremost military miniature society in the UK should contact the Honorary Secretary, John Ruddle, at 22 Priory Gardens, Hampton, Middlesex. John will be pleased to let you have the address of the nearest group to your home.

Aero postal covers

I WAS MOST interested in references to the flown covers for the RAF Museum, RAF Escaping Society etc, in *In the air* in the May issue. Readers may be pleased to hear that Group Captain Randle's magnificent idea has also helped the research funds of the Muscular Dystrophy Group's Southend Branch. In appreciation of the Group Captain's co-operation with this charity, supporters donated a set of autographed flown covers to the Historic Aircraft Museum at Southend Airport and Group Captain Randle handed over the framed set to the museum. The directors of the museum have promised to donate annually to the charity in return for the help they have received from local members.

Leslie Hunt, Leigh-on-Sea, Essex.

Never mind the quality, feel the strength . . .

I WOULD LIKE to inform you how strong the paper is that the *Airfix Magazine* is made of, because when I was coming home after just buying your magazine it fell out of my pocket onto the road and was run over by two large lorries, a van and three cars, and when eventually I managed to retrieve it there wasn't even a crease in it.

Gary Beaumont, Clapham.

Knickers

REFERRING TO the subject of Renaissance warfare and the word 'Pluderhosen' in the January and March issues, I would like to inform you that the correct translation of the word is 'knickerbockers'.

H. M. Bosch, Voorburg, Holland.

Starfighters

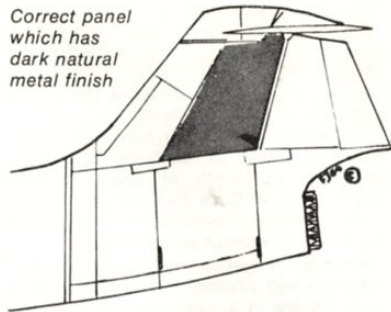
I WOULD LIKE to make a couple of corrections and additions to my article on Royal Netherlands Air Force Starfighters which was published in the July issue of Airfix Magazine. First of all, the fin of the misty-grey TF-104G is all wrong; I enclose a new drawing, which

is correct. Note the addition of the two black stripes. Secondly, the 'No step' warning is carried on the tops of the wing ailerons. And thirdly, the anti-glare panel on the Fokker-built aircraft is matt black, that on the Fiat machines green.

As a result of the lack of commercial decals showing RNethAF machines, the Dutch branch of IPMS have published three sheets, which are available from IPMS The Netherlands, Van Houtenlaan 10, Naarden 1352, Holland. These depict RNethNavy roundels (which can, however, be used on air force machines) and two sheets of registration letters in black and white, all three sheets to various scales.

Fred J. Bachofner, Brielle, Holland.

Correct panel which has dark natural metal finish



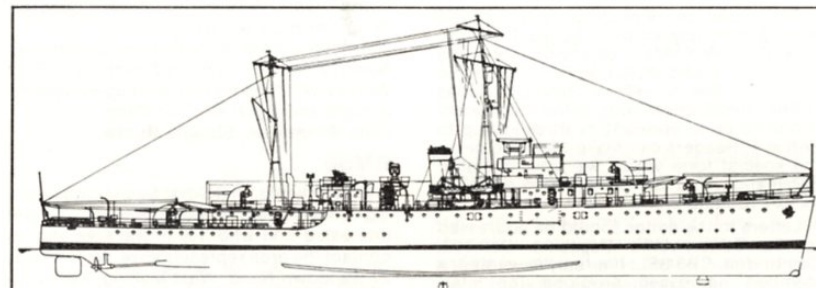
The two black stripes common to all Starfighters.

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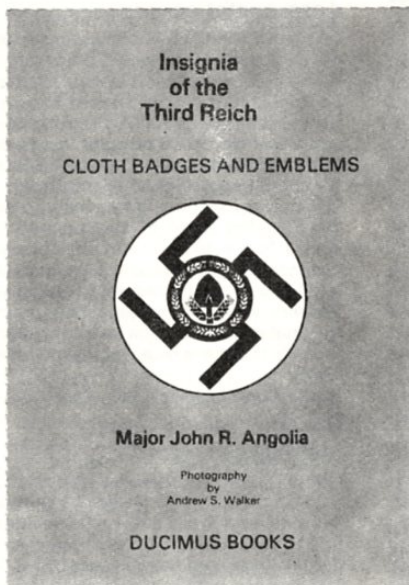
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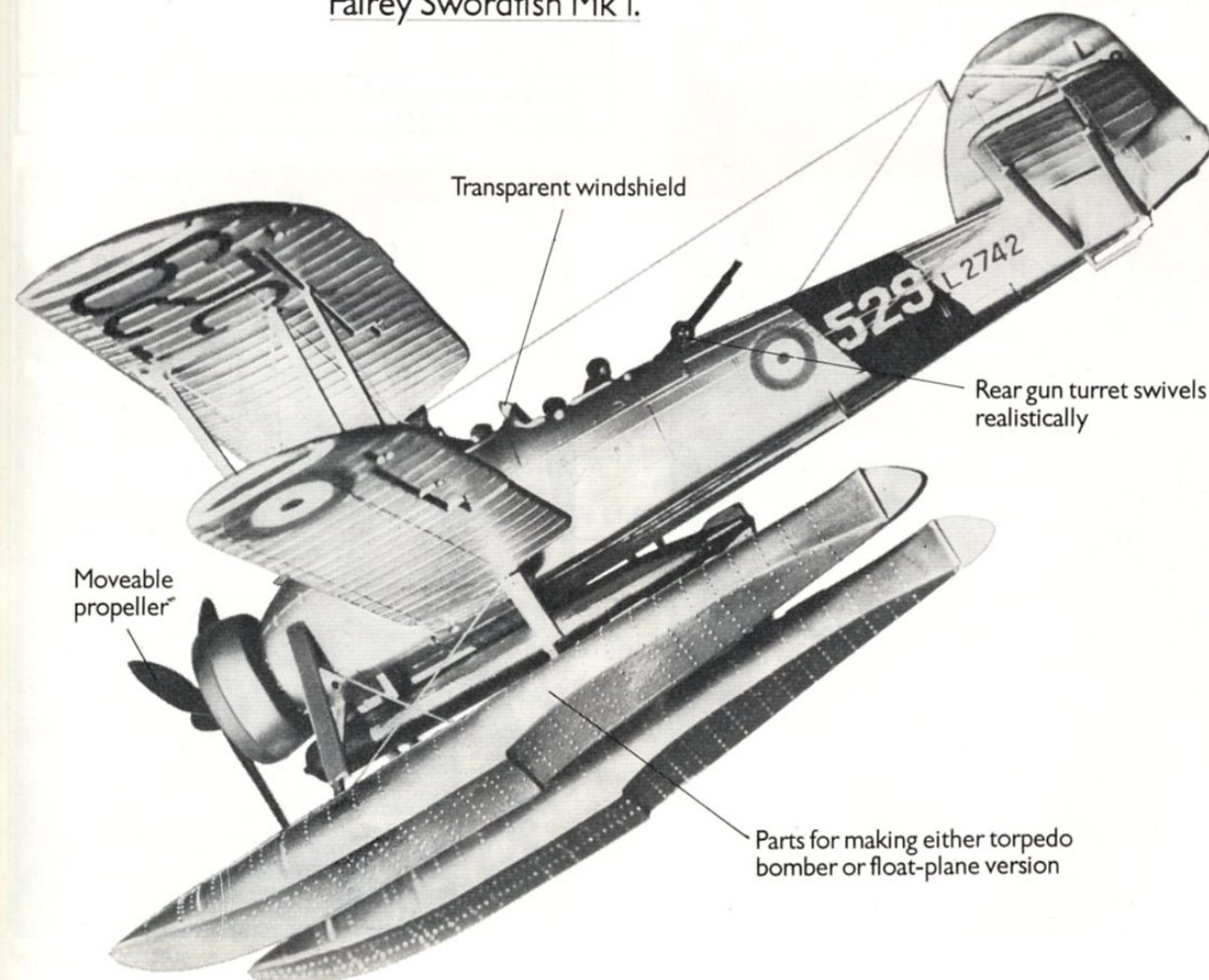
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AIRFIX magazine



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D. H. Hagger

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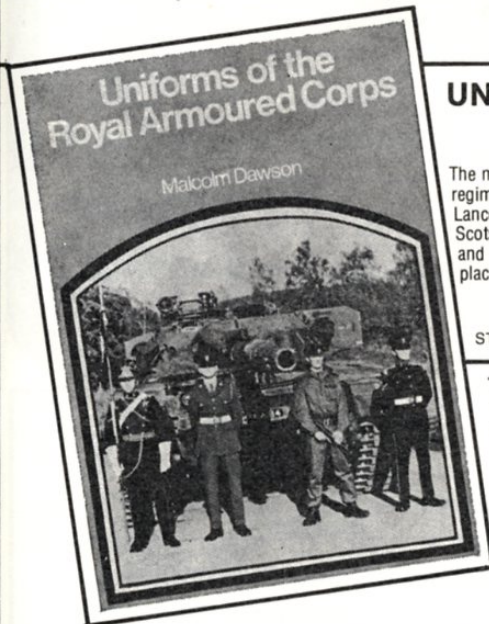
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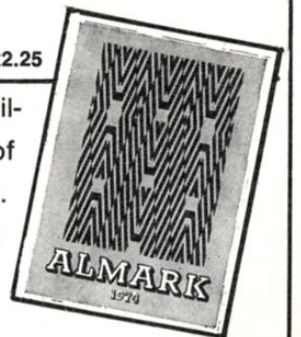
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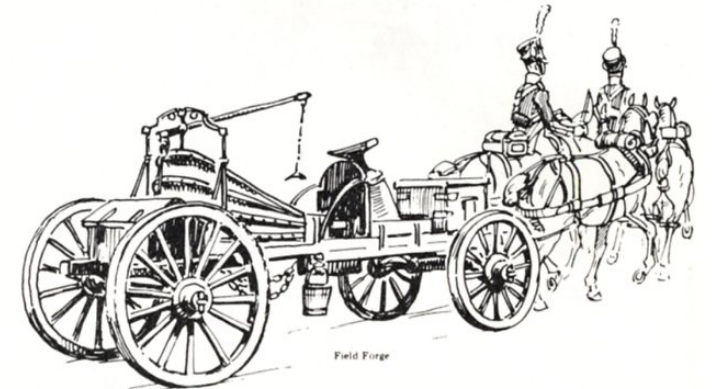
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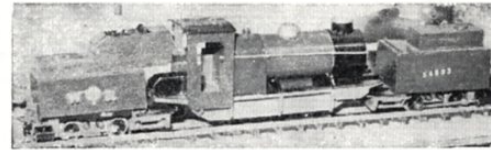
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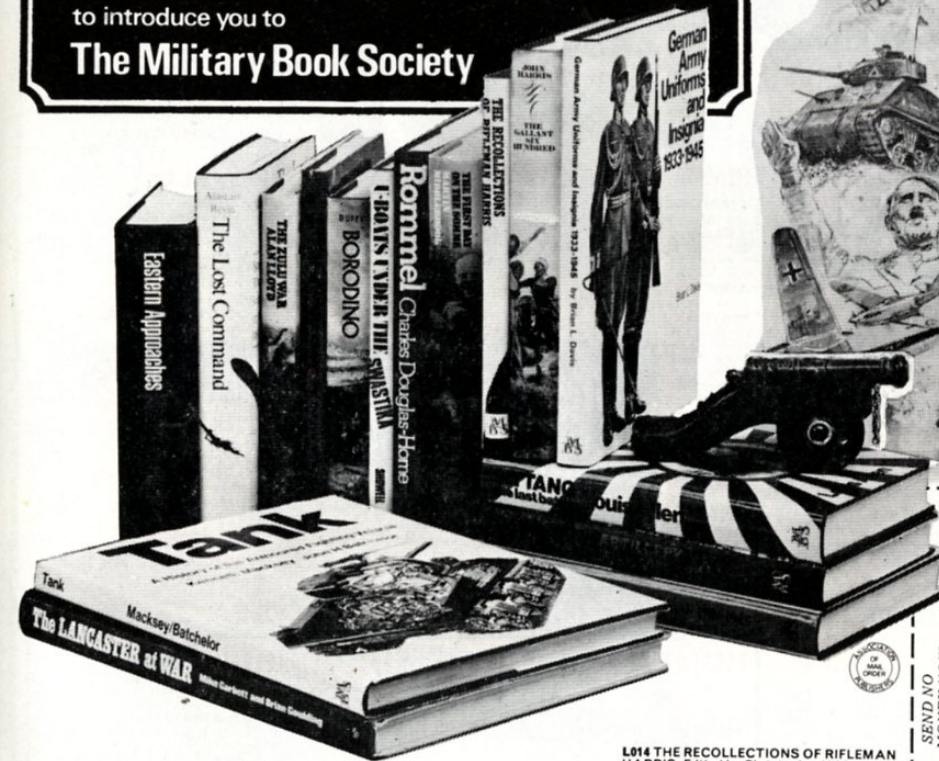
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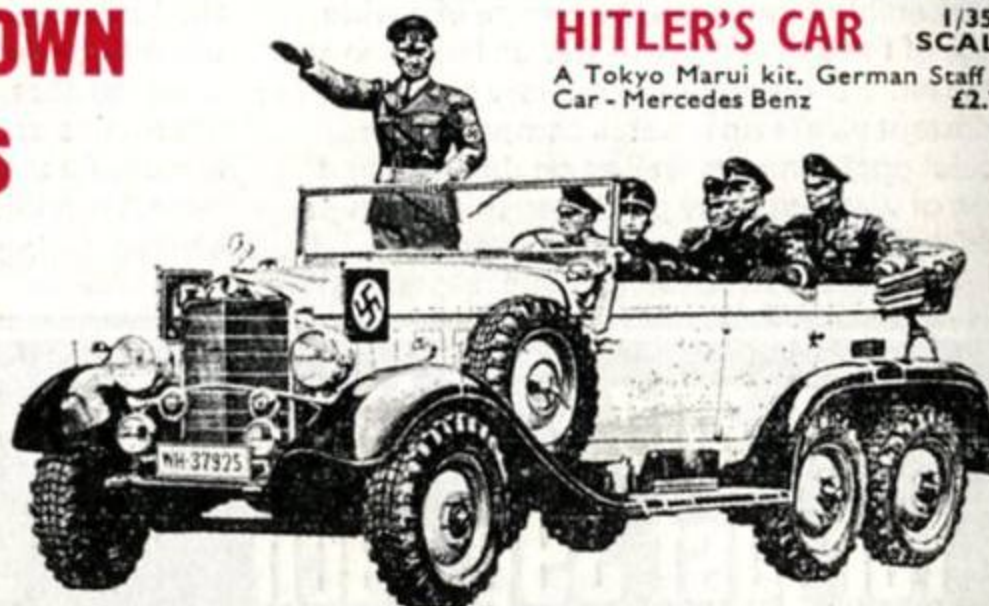
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Printed in England by Blackfriars Press Ltd., Leicester